DOCUMENT RESUME

ED 059 594 EM 009 584

AUTHOR	Puzzuoli, David A.; Fazzaro, Charles J.
TITLE	Development of Tele-Lecture and Associated Media Systems for the Improvement of Nursing Education in West Virginia.
INSTITUTION	West Virginia Univ., Morgantown. Coll. of Human Resources and Education.
SPONS AGENCY	Public Health Service (DHEW), Silver Spring, Md. Emergency Health Services Branch.
REPORT NO	P-D10-NU-00431-01
PUB DATE	Aug 71
NOTE	90p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Feasibility Studies; *Medical Education; Nurses; *Nursing; *Professional Continuing Education; Refresher Courses; Teaching Methods; *Telephone Communication Systems
IDENTIFIERS	*Telelecture; West Virginia

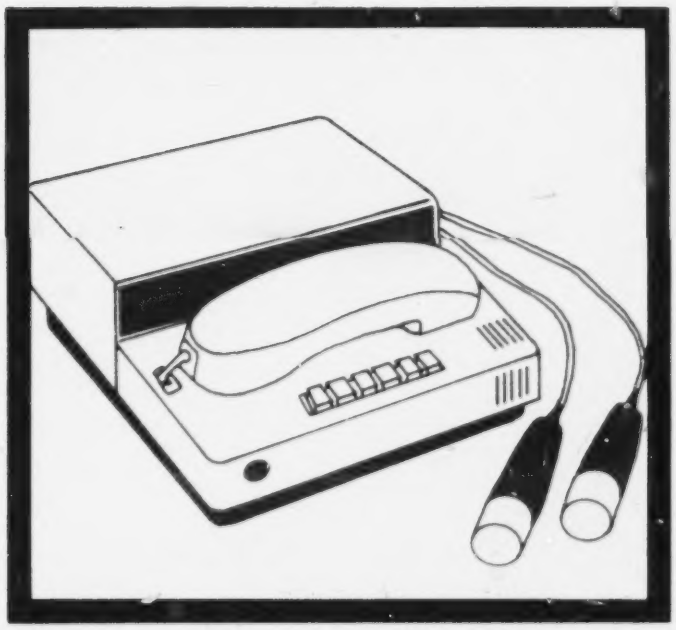
ABSTRACT

A feasibility study explored the use of the telelecture technique for continuing nursing education in the state of West Virginia. Telelecture is a two-way amplified communications system designed to bring together individuals and/or groups by means of a regular telephone network. The results of the study showed that it is an effective technique which brought continuing education courses to nurses throughout the state. The nurses who were taught by the telelecture method performed as well on tests as nurses taught by conventional methods. In addition the cost per student of the telelecture method compared favorably with the cost of traditional continuing nursing education programs. (JY)

ED 059594

The Development of Telelecture and Associated Media Systems for the Improvement of Nursing Education in West Virginia

David A. Puzzuoli
Charles J. Fazzaro
West Virginia University



EM 007 284

DEVELOPMENT OF TELE-LECTURE AND ASSOCIATED MEDIA SYSTEMS FOR THE IMPROVEMENT OF NURSING EDUCATION IN WEST VIRGINIA

Department of Health, Education, and Welfare
Bureau of Health Manpower Development
Project No. D10 NU 00431-01

Gearlean M. Slack, Project Director
Director of Continuing Education
School of Nursing
West Virginia University

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

David A. Puzzuoli
Charles J. Fazzaro
Educational Research and Field Services
College of Human Resources and Education
West Virginia University
August, 1971

The work presented or reported herein was performed pursuant to a grant received through the Public Health Service, Dept. of H.E.W. Any opinions expressed herein do not necessarily reflect the position or policy of those agencies.

TABLE OF CONTENTS

	Page
INTRODUCTION	1
Philosophy of the School of Nursing	1
Public Service and the School of Nursing	2
Summary	4
MEETING THE NEEDS OF CONTINUING NURSING EDUCATION IN WEST VIRGINIA	6
Environmental Constrictions	6
Variables Limiting Opportunities for Professional Growth	8
ORGANIZING AND IMPLEMENTING THE STATE-WIDE TELE-LECTURE COMMUNICATIONS NETWORK	11
Administration of the Project	12
Technological Aberrations	16
Formal Course Offerings	17
FEASIBILITY OF A TELE-LECTURE COMMUNICATIONS NETWORK TO SERVE THE NEEDS OF CONTINUING NURSING EDUCATION IN WEST VIRGINIA	22
Economy in Expenditures	23
Logistical-Technological	28
Student Learning	28
Patient Care	33
W. Va. Mental Health Hospitals	33
Accreditation of Hospitals	34
On-Site Visits	34
Summary	37
CONCLUSIONS AND RECOMMENDATIONS	39
Success in Meeting Objectives	39
Recommendations	40

LIST OF TABLES

Table		Page
I	SUMMARY OF HOSPITALS ON TELE-LECTURE NETWORK	13
II	SUMMARY OF TELE-LECTURE USAGE: FIRST AND SECOND SEMESTER, 1970-71	19
III	TOTAL COSTS PER TELE-LECTURE PROGRAM, TOTAL ENROLLMENT, AND TOTAL COSTS PER ENROLLMENT: 1970-1971	26
IV	SUMMARY OF INCORRECT RESPONSES, PRE-TEST AND POST-TEST FOR NUTRITIONAL AIDES ENROLLED IN THE CONTINUING EDUCATION COURSE FOR NUTRITIONAL AIDES AND SUPERVISORS: 1970-71, TELE-LECTURE	32

LIST OF FIGURES

Figure		Page
1	Development of Tele-lecture and Associate Media System for the Improvement of Nursing Education in West Virginia	29

DEVELOPMENT OF TELE-LECTURE AND ASSOCIATED MEDIA SYSTEM FOR THE IMPROVEMENT OF NURSING EDUCATION IN WEST VIRGINIA

INTRODUCTION

West Virginia University, a land grant institution, was established in 1867 as the "Agricultural College of West Virginia;" the name was changed the following year to West Virginia University. In 1951, the schools of medicine, dentistry, and nursing were authorized by House Bill No. 268 as passed by the West Virginia Legislature. In May, 1960, the first Dean of the School of Nursing was appointed, with an effective appointment date of August, 1960. Further, the School of Nursing received approval from the West Virginia Board of Examiners for Registered Nurses and the first class of 28 students were accepted in September, 1960.

Thus, it can be seen that within the total historical perspective of the life of West Virginia University, the School of Nursing is a relative newcomer. This position has proven to be an asset to the School of Nursing rather than a deterrent.

Due to its relative "newness," the School of Nursing has enjoyed the unique position of a young, dynamic, and vigorous institution. It has not had to expend energies to overcome the conservative attitudes of "tradition" and "longevity" in order to implement new and/or relevant programs, determine new directions, and provide services to the State.

Philosophy of the School of Nursing

The conclusion that the West Virginia University School of Nursing is a young, dynamic, and vigorous institution is reflected in its philosophy. The philosophy was generated through a faculty committee and adopted in 1963. The philosophy of the West Virginia University School of Nursing is given

below.

As an autonomous school functioning within the administrative framework and philosophy of West Virginia University, the School of Nursing by working toward the betterment of nursing care, accepts its responsibility for contributing to the attainment of the University's objectives and ideals of excellence in teaching, research, and public service.

The faculty believes that nursing shares with other health disciplines the broad responsibility for providing for health needs of people. These needs encompass promotion of health, prevention of illness, and restoration to health. Nursing is unique in that it is characterized by responsibility for personalized, continuous care of the individual in illness, in addition to his role in health teaching and health supervision of individuals, families and community groups.

The nurse possesses background knowledge of related physio-biological, behavioral, and health sciences. She synthesizes that knowledge to obtain principles of nursing which she utilizes as she plans, implements and evaluates nursing care. As a member of society she is responsible for contributing to the improvement of her own profession, and the improvement of her community, through creative efforts as well as through self-directive, responsible behavior.

Learning is an active process, one which favored by a climate of personal acceptance of the learner. Learning is also a progressive and cumulative experience resulting in changed behavior which becomes useful in subsequent learning situations. Progressively complex tasks built upon this experience serve as motivation for continued learning.

The process of education should take place in an atmosphere characterized by a democratic spirit in which students and faculty can share learning experiences. Such a climate encourages development of intellectual curiosity and the capacity for self-direction, to the end that the individual may become an informed, participating citizen conscious of his own rights and responsibilities and the rights and responsibilities of others.

The school prepares students for beginning practice of professional nursing, with an educational background designed to provide a basis for advanced study in nursing and professional growth and advancement through experience.

Public Service and the School of Nursing

Appropriately, the School of Nursing focused its attention upon the establishment of itself as an effective instrument of higher education in nursing during its first three years of existence. In 1963, the School of Nursing began to direct a considerable amount of its resources to iden-

tifying and meeting the continuing nursing education needs of West Virginia.

In order to provide a frame of reference and the nucleus of a method for identifying needs, the School of Nursing cooperatively established a "Continuing Education State-Wide Advisory Committee." Membership to the Committee included representatives of the following agencies: (1) West Virginia Board of Examiners for Registered Nurses, (2) West Virginia League for Nursing, (3) West Virginia Nurses Association, (4) Nursing Education Diploma Schools, (5) Associate Degree Programs, (6) West Virginia Department of Public Health, (7) Nursing Services, and (8) Veterans Administration Hospital-Nursing Service.

In 1963, the faculty of the School of Nursing determined that all planning for increased activity in the area of public service should include faculty participation in the activities of state nursing organizations and collaboration with them in determining and meeting the nursing needs of the State. The faculty approved far-reaching statements as its basic commitment to continuing nursing education; they are:

1. The nursing faculty will participate in the improvement of care in specialized and general hospitals by contributing consultant services as time permits.

2. The School plans to provide a program for continuing education for nurses.

3. The School plans to participate in preparing and distributing educational television materials related to nursing.

4. The School plans to cooperate fully with any bureau or organization for nursing within West Virginia which wishes to present educational programs for the improvement of nursing.

5. The School plans to involve itself increasingly with the nursing education project of the Southern Regional Education Board.

6. The School plans to collaborate with other units of the University in adult education programs related to health.

During the period 1963-64, the faculty of the School of Nursing adopted a set of guidelines for continuing nursing education programs which it would support. These guidelines are:

Recognizing the increasing importance of professional nursing service to the health of the nation and cognizant of the difficulties the practitioner encounters in keeping abreast of new developments in any professional field today, the West Virginia School of Nursing is instituting a program of continuing education for professional nurses in West Virginia. This is a long-range program; the guiding principle of which is improvement of nursing practice. This principle encompasses a broad spectrum of activities designed to assist the nurse, at whatever level, to develop increased knowledge and understanding of comprehensive nursing care and of patterns through which it can be effectively administered.

In so far as possible, program sequence will be directed toward nurse groups composed of persons relatively homogeneous in backgrounds, preparation, and current needs: i.e., nursing supervisory personnel, staff nurses, public health nurses, occupational nurses, and other groups with compatible needs and interests.

Programs must be predicated on the assumption that each nurse has already had minimal preparation required for the position she holds. It is recognized that in view of rapidly changing functions in the nursing position, this is not always true. A continuing education program, however, cannot undertake the gigantic task of preparing the individual for a multitude of different nursing positions. In short, this program is aimed primarily toward groups of nurses rather toward individuals.

As an added service, the program will endeavor to assist persons in meeting their individual goals through counseling and advice, often referring them to the basic program of the school of nursing. The primary purpose of which <u>is</u> the pre-service preparation of the individuals.

The continuing education program is a new endeavor of the School and should not be regarded as a substitute for, or means of achieving basic preparation. Even those nurses who graduate from the basic collegiate program will, presumably, need continuing education throughout their professional lives. This will provide for them as for other nurses, opportunity to improve their practice through the years through various series of programs designed to keep them abreast of new developments in nursing and related health sciences.

<u>Summary</u>

In summary, it can be observed that during the first-half of the 1960's, the West Virginia University School of Nursing appointed its first Dean, established a four-year pre-service education program and developed

a contemporary and forward-looking philosophy. Further, the School established (1) basic principles and guidelines for continuing nursing education, (2) an administrative structure for faculty participation in continuing nursing education program planning and participation, and (3) liaison with appropriate health agencies and professional nursing organizations within West Virginia and the Nation. These latter efforts were designed to coordinate efforts to identify and meet the continuing nursing education needs of West Virginia.

As related to continuing nursing education, the School assigned priorities and allocated resources towards the implementation and operationalizing of such programs during the last-half of the 1960's. An overview of this process will be provided in succeeding sections of this Report.

MEETING THE NEEDS OF CONTINUING NURSING EDUCATION IN WEST VIRGINIA

The previous section of this Report has provided the reader with a cursory review of the development of the continuing nursing education concept within the West Virginia University School of Nursing. During the mid-1960's, the School completed the tasks of setting-up organizational and administrative offices and recruiting personnel to operationalize the faculty adopted continuing nursing education philosophy and guidelines.

After a period of in-depth assessment relating to priorities, allocation of resources, program planning, and client groups to be served, it became immediately apparent to the School that modifications in the traditional method of presenting continuing nursing education programs would be necessary.

Environmental Constrictions

Traditionally, continuing nursing education programs have been implemented through the "students-meet-the-professor" model. This model is where either the professor travels from his home institution to conduct a class at some distant point or students travel from distant points to meet the professor at his home institution for a workshop or seminar.

Located within the heart of Appalachia, West Virginia presents a challenge to the School in relation to the implementation of continuing nursing education due to specific, unique environmental constrictions. These environmental constrictions center upon (1) topography, (2) low population density, and (3) climate.

Topography. West Virginia is characterized by rugged, mountainous terrain. Although the State is undertaking an ambitious road-building pro-

gram, far too many areas of the State are not and will not be serviced with modern highways to provide easy automotive travel between points. In addition, many counties within the State are not serviced by any form of public transportation system, either train, plane, or bus. In many instances, traveling a distance of 30 miles by automobile requires an hour or more of time.

Thus, the payment for professional time and travel becomes a significant expenditure in operationalizing continuing nursing education programs in West Virginia under the traditional model. Further, the topography provides a challenge to the enterprising nurse who wishes to travel to a distant point in order to continue her education; in fact, the topography and necessary travel time inhibits many nurses from traveling to distant points to continue their education.

Low Population Density. West Virginia has shown a steady decline in its total population during the past three national censuses; the State is characterized by a few high population "pockets" with the majority of the State's land mass occupied by people in a rural, undeveloped landscape. The mean number of persons per square mile is 71.4 for West Virginia with a range of 9.4 to 589.0. Fifteen of the State's 55 counties have a population density of 25 or less persons per square mile.

Climate. Many of the counties in West Virginia experience severe weather conditions during the Winter months; many of the higher-elevation counties experience 200 or more inches of snow during a Winter season. When one combines the severity of Winter weather conditions, topography, and road development, it can be easily concluded that implementing the traditional workshop or seminar method for continuing nursing education greatly restricts the impact of such programs.

In addition to limiting the impact and availability of continuing nursing education programs on a regularly scheduled basis, the environmental constrictions produce an inhibiting effect upon communications between/among nursing educators, nursing practitioners, and health/medical agencies. This condition only adds to the complexity of the problem of providing patient care under the most contemporary and recognized nursing practices.

Variables Limiting Opportunities for Professional Growth

Historically, there has been a prevailing lack of opportunities for continuing nursing education in West Virginia.[1] Further, it has been determined by various methods and planning groups that there is an urgent need in West Virginia to up-date and provide contemporary knowledge and skills to practicing nursing personnel and to decrease the gap between what is known and what is practiced.[2] The statements by F. M. McKenna and the Governor's Task Force on Health accurately portray the state of the art of continuing nursing education as West Virginia entered the decade of the 70's.

In addition to the environmental constrictions described above, the School of Nursing identified other variables which limited opportunities for professional growth through continuing nursing education; there were:

---

[1]McKenna, Francis M., Nursing in West Virginia, 1968: Summary Report of the Committee to Study Nursing Needs of West Virginia (Charleston, W. Va: West Virginia State Board of Examiners, 1968), p. 70; The Report of the Governor's Task Force on Health (Charleston, W. Va: Office of the Governor, 1967), p. 22.

[2]Ibid

1. There is an extremely limited number of professional workers in the various categories of nursing personnel. This necessarily affects the amount of time health agencies may release personnel for continuing nursing education purposes.

2. West Virginia is characterized by a dis-proportionately greater number of small hospitals and health agencies. These small hospitals, generally, are poorly staffed with nursing personnel and these personnel hold limited basic professional preparation. The isolated small hospitals provide little opportunity in terms of in-house in-service programs to assist their personnel to keep abreast of developing knowledge, methods, and techniques of health care.

3. Economically and financially, it is not feasible for the greatest proportion of individual hospitals to establish and maintain quality in-house in-service education for their nursing staff. The dearth of adequately prepared professional personnel to conduct these kinds of continuing nursing education learning experiences compounds the problem.

4. West Virginia Health/Manpower Statistics indicate a severe lack of qualified professional nursing instructors within the State.

5. Pragmatically, not all nursing personnel can afford the time and expense inherent in attending workshops or seminars outside of their respective communities.

The West Virginia School of Nursing recognized that they must assume leadership for the majority of continuing nursing education programs. It is the only National League of Nurses accredited baccalaureate program in nursing within the State and the only School accredited and staffed to provide instruction and guidance for public health and psychiatric nursing.

The continuing education department, West Virginia University School of Nursing, has provided leadership in determining solutions to problems in providing continuing nursing education programs. As a first step, the School established a close relationship with the West Virginia State Nurses Association, West Virginia League for Nursing, West Virginia State Board of Examiners, West Virginia Department of Public Health Nursing, Nursing Care Committee of the Heart Association, West Virginia Nursing Needs Committee, West Virginia Comprehensive Health Planning, and the West Virginia Regional

Medical Program.

The School of Nursing concluded that a delivery system must be established which will overcome the constrictions and limiting variables identified and, in addition, economize on the time and resources of the limited, available instructional staff and the client groups to be served in a continuing nursing education program. Emphasis was placed upon the economy of time on the part of the client group because the amount of time a nurse or other professional staff member is absent from their respective health agency is not only a personal economic loss but greatly decreases the actual care provided to the patients.

The West Virginia School of Nursing concluded that a State-Wide Tele-lecture Network could possibly serve as a viable delivery system to provide continuing nursing education programs on a regularly scheduled basis. Subsequently, a Proposal was submitted to the U.S. Department of Health, Education, and Welfare to determine the feasibility of establishing a State-Wide Tele-lecture network in order to meet the critical continuing nursing education needs of nursing and allied personnel in West Virginia.

ORGANIZING AND IMPLEMENTING THE STATE-WIDE TELE-LECTURE COMMUNICATIONS NETWORK

On July 1, 1969, West Virginia University submitted a Proposal to the U.S. Department of Health, Education, and Welfare to determine the feasibility of delivering continuing nursing education programs through tele-lecture. The Proposal was accepted and funded under grant number D10/NU/00431-01 and notification of Project approval was received on April 7, 1970.

Project funds for the first 12 months of the feasibility study became available on June 1, 1970. On May 5, 1971, a request for supplementary funds to continue the feasibility study for an additional six months was made; subsequently, West Virginia University received notification of approval for supplementary funding of the final six months of the feasibility study.

The implementation of the Project required that the School of Nursing, Department of Continuing Education, establish a close liaison and working relationship with three specific units. These units were: (1) the electronics communication industry, primarily, the Chesapeake and Potomac Telephone Company of West Virginia, the Bell Telephone Laboratories, and the Western Electric Company; (2) the Health/Medical institutions or agencies, these included the various hospitals and health agencies/associations across the State; and (3) the extension credit division of the West Virginia University Center for Appalachian Studies and Development, this is the administrative unit within West Virginia University which administers off-campus education. It was anticipated and eventually realized that a considerable number of major and minor problems and/or issues would arise in

implementing the State-Wide Tele-lecture Network; these problems may be classified as administrative and technological.

Administration of the Project

One of the first problems which faced the administration of the Project was the securing of professionally competent and recognized authorities to serve as instructors on the tele-lecture network. This problem arose due to the incompatability of the notice of funding (6/1/70) with the final faculty assignment date for the School of Nursing (5/1/70). Of necessity, this involved the process of identifying external consultants to act as instructors and those School of Nursing faculty willing to participate in the program even though they had accepted their teaching assignments for the academic year 1970-71.

Due to the high-level of acceptance of the tele-lecture network by the health/medical profession and institutions in West Virginia, the administration of the Project was faced with the issue of serving 44 hospitals across the State; the original plan anticipated that approximately 20-25 hospitals would join the system. In addition, the West Virginia University Center for Appalachian Studies and Development joined their six regional offices to the network. Part II of this Report provides the reader with the names, addresses, and other related information on those hospitals who joined the system. Table I presents a summary of hospitals on the tele-lecture network according to bed capacity.

In order to overcome the problem of establishing liaison with each hospital on the system, each hospital identified a local liaison person to coordinate local activities and act as a contact point for the Project Director. It should be emphasized at this point that the efficiency and effectiveness of the entire process depended, on a large extent, upon the

TABLE I

SUMMARY OF HOSPITALS ON TELE-LECTURE NETWORK

Bed Capacity	Number of Hospitals in Each Category*	Total Bed Capacity in Each Category	Total Hosp. On The Tele-Lecture System	Total Bed Capacity of Hosp. on TL System
200 +	23	10,639	19	6,979
100 - 199	17	2,555	9	1,329
50 - 99	27	2,008	10	732
0 - 49	27	899	6	236
Totals	94	16,101	44	9,276

*Includes all State Medical Health Institutions and Veterans Administration Hospitals.

abilities and attributes of the local liaison person. It is imperative that the local liaison person has the freedom to function within the total hospital setting. Further, the local liaison person should:

1. Be afforded adequate time to devote to the responsibilities of the position and be available for regularly scheduled tele-lecture or face-to-face meetings of all hospital liaison representatives and the Project Director.

2. Have a high degree of organizational ability and insight. It is imperative that the local liaison person be able to manipulate schedules, have a high degree of communication skills (written and oral), and be informed upon all aspects of the tele-lecture system and the objectives of specific continuing nursing education programs delivered through the system.

The overwhelming acceptance of the tele-lecture system by the hospitals and their nursing staffs created pressures upon the resources of the Project. These included secretarial services, duplication of audio-visual materials for respective course offerings provided through the System, and coordination of registering students through the local liaison person. These pressures were partially relieved through the use of supplementary funds; however, solutions were reached, primarily, due to the extreme cooperative effort put forward by all personnel at West Virginia University and participating agencies.

Administrative problems arose which related to student advising and/or guidance. Enrollment in the formal courses delivered through tele-lecture provided that the student could receive either graduate credit or a non-college credit type called "continuing education units." Problems relating to receiving graduate credit were relatively simple; however, a large number of the students enrolled in the program had not completed a formal four-year baccalaureate degree or were in the process of beginning work on a baccalaureate degree. Therefore, the Project Director, the

Office of Estension Credit, and the central administrative staff of West Virginia University were faced with the issue of providing undergraduate credit through tele-lecture which was originally defined as an extension program by West Virginia University. Eventually, this issue was resolved and students could obtain undergraduate or graduate credit by participating in courses delivered by tele-lecture.

West Virginia University is participating in a non-college credit type "continuing education unit" program in cooperation with the National University Extension Association and other universities. The program is designed to give recognition, on a national basis, to persons continuing their education and keeping up-to-date in their chosen field by participating in West Virginia University sponsored non-credit programs. One continuing education unit (C.E.U.) is generally defined as: 10 contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction, and qualified instruction, The Office of Admissions and Records keeps records of continuing education units earned by individuals and, upon request, will furnish to the participant or his designee a "transcript style record" of units earned at West Virginia University. Many of these students enrolled in the courses offered through tele-lecture were identified as c.e.u. students. Provided in Appendix A is a display of the types of credits earned by the participants.

As with any process which is being "wringered" through a development and feasibility stage, management and administrative problems will arise. However, through the high degree of cooperation exhibited by all agencies interacting with the Project and West Virginia University, these problems became minimized and the Project was permitted to function under optimum conditions. The Project Director should be commended for the high degree

of organizational and management skills exhibited in implementing the Project.

Technological Aberrations

During the Proposal writing stage of the Project, the Project Director began preliminary discussions and negotiations with the Chesapeake and Potomac Telephone Company of West Virginia to inventory and review the kinds and variety of equipment available to implement the Project. At this time, the only equipment the C & P Telephone Company had available was a heavy, cumbersome unit designed for an audience of approximately 50-100 persons. However, the Bell Telephone Laboratories were experimenting with a small portable conference telephone set designed for audiences up to 50 persons; the set was labeled the 50-A Conference Set.

By the official funding date, (6/1/70), the Western Electric Company was beginning to manufacture the 50-A Conference Sets on a regularly scheduled production basis. The C & P Telephone Company was able to secure the first 60 sets made by Western Electric for this Project. The C & P Telephone Company established a network which connected 56 points (hospitals, Center for Appalachian Studies and Development Centers and one telephone monitoring location) engineered to work on a two-wire basis. The C & P Telephone Company was responsible for engineering the total system and tying three independent telephone companies in order to "tie-in" the total State.

At the outset, it became apparent to telephone engineers that the entire network would need to be re-engineered from a two-wire circuit to a four-wire circuit. In addition to circuitry changes, design and engineering modifications had to be made on the 50-A sets in order to function on the four-wire circuit. These problems delayed the Project for several weeks;

however, due to the ingenuity, inventiveness, and cooperation of the C & P Telephone Company employees these technical problems were soon solved.

Instruction on the system was delivered either "live" or on audio-tape presentations the instructors prepared ahead of time. Also, the "live" lecture was audio-taped for re-playing at regularly scheduled times. During the initial weeks of operation, telephone personnel located at the monitoring center noticed that certain instructors were using inferior taping facilities which, in turn, distorted their voice during lectures; in addition, it was ascertained that the Project was over-driving the circuit by entering tapes at too high of a level. Representatives of the C & P Telephone Company, in cooperation with the Project Director, soon generated solutions to the problem and the system became more efficient and effective.

Formal Course Offerings

Strategic planning for the presentation of specific course offerings was coordinated by the Project Director with the West Virginia Hospital Association, the Committee to Study Nursing Needs in West Virginia, West Virginia Nurses Association, West Virginia League of Nursing, and needs identified directly by the Nursing Service directors and hospital administrators going on the tele-lecture system. This was accomplished through a series of personal meetings with the respective organizations, written communications, and oral communications.

It should be noted at this time that each hospital which went on the system supported the rental fee of the 50-A Conference Set ($25.00 per month). Telephone company personnel were responsible for providing in-service education to the liaison person as related to equipment operation and contingency plans to cover technical manfunctions.

By July 20, 1970, all participating hospitals were identified and, in turn, each participating hospital had identified their local liaison representative. By this date formal course offerings had been identified and a memorandum of procedure for scheduling continuing nursing education programs or classes via the tele-lecture system was forwarded to key health organizations/agencies. These agencies included the West Virginia School of Nursing, West Virginia School of Medicine, West Virginia University Office of Extension Credit, West Virginia Hospital Association, West Virginia Medical Association, West Virginia Mental Health Association, West Virginia Public Health Nursing, West Virginia Maternal Child Health, West Virginia Nurses Association, West Virginia League for Nursing, West Virginia State Board for Registered Nurses, West Virginia Practical Nurses Association, West Virginia Heart Association, West Virginia Tuberculosis and Respiratory Disease Association, and West Virginia Regional Medical Program.

Further dissemination of the Project was provided through the public news media; the Project Director encouraged each hospital to provide news releases in their respective areas relating to the system. The Project Director provided sample news releases to each hospital which included the basic facts of the Project.

During the first semester of the academic year 1970-71, the following formal courses were delivered through tele-lecture: Nutrition 71, Introduction to Nutrition; Nursing 11, The Life Process; Speech Pathology and Audiology, Survey of Oral Communications Disorders; Self Development; Clergy, Nurse, and Doctor---A Healing Team; Continuing Education for Nutrition Aides and and Supervising Agents. Complete descriptions of the courses are provided in Appendix[B] . Table II presents the total schedule of programs for the first and second semesters, 1970-71.

TABLE II

SUMMARY OF TELE-LECTURE USAGE: FIRST AND SECOND SEMESTER, 1970-71

Course Code	Course Title	First Semester Tot. hrs. of Tele-lecture*	First Semester Telephone Costs	First Semester Enrollment	Second Semester Tot. hrs. of Tele-lecture*	Second Semester Telephone Costs	Second Semester Enrollment	Total Telephone Costs
1B	Dynamic Nursing Management				42	$1,114.09	201	$1,114.09
1C	Management, CCU				12	328.32	89	328.32
1D	Nursing Systems				10	273.59	54	273.59
1E	Coronary Care				16	437.75	173	437.75
1F	Nsg. Care of the Stroke Patient				16	437.75	118	437.75
1G	Hospital Accreditation				16	437.75	85	437.75
1J	Emergency Room Care				30	820.77	95	820.77
1K	Legal Aspects of Nsg.				30	820.77	115	820.77
SPA 250	Oral Communications	45	$1,140.37	55	45	1,231.16	17	2,371.53
Ng. 12	Life Process				30	820.77	80	820.77
Nt. 71	Nutrition Now	90	2,280.74	189	45	1,231.16	54	3,511.90
Ng. 11	Life Process	30	760.25	215	15	410.39	15	1,170.64
1A	Self-Development	24	608.20	235	12	328.32	6	936.52
1P	Clinical Sessions				10	273.59	40	273.59
	Population Explosion**				4	109.44		109.44
1I	Faculty, Sch. of Nsg.	10	253.40	N/A	10	273.59	N/A	529.99

TABLE II (cont'd)

Course Code	Course Title	First Semester Tot. hrs. of Tele-lecture*	First Semester Telephone Costs	First Semester Enrollment	Second Semester Tot. hrs. of Tele-lecture*	Second Semester Telephone Costs	Second Semester Enrollment	Telephone Costs
Ng. 170	Nursing Research	11	278.76	N/A	15	410.39	N/A	689.15
1H	Clergy, Nurse and Doctor--the Healing Team	30	760.25	450	15	410.39		1,170.64
1Q	Death and Dying				12	328.32	85	328.32
1R	Hospital Accreditation				14	383.04	85	383.04
Ng. 18	Orientation to Nsg.	45	1,140.37					1,140.37
1M	Tumor Clinic	10	253.40	50	15	410.39	50	663.79
	W.Va. Mental Health Hospital Staff**	11	278.76		15	410.39		689.15
	Project Administration--Liaison Meetings**	18	456.15		20	547.18		1,003.33
	W.V.U. Center for Appalachian Studies and Develop.**	13	329.45		29	793.42		1,122.87
	Con't. Ed. for Nutrition Aides and Supervisors	30	760.25	150	30	820.77	200	1,581.02
	Totals	367	$9,300.35		508	$13,898.50		$23,198.85

*Includes original tele-lecture plus re-run of audio-tape of original lecture.
**Attendance not recorded.

The program offerings were influenced by several factors; these were:

1. Needs---identification of program needs have been previously discussed.

2. Availability of qualified instructional staff.

3. Availability of adequate funds to support consultative services as needed.

4. Adaptability of course or program content to this particular delivery method.

The system officially went "on the air" September 28, 1970.

FEASIBILITY OF A TELE-LECTURE COMMUNICATIONS NETWORK
TO SERVE THE NEEDS OF CONTINUING NURSING EDUCATION
IN WEST VIRGINIA

A telephonic system which appears to be growing in popularily and usage in the field of education is the tele-lecture. The tele-lecture is a two-way amplified communications system designed to bring together individuals and/or groups by means of a regular telephone network. Through the use of the tele-lecture, a speaker may present an address to one or more groups, simultaneously, located in one or more different sites across a region, state, or nation. These systems are designed such that the speaker's voice is amplified in accord with local needs and the audience may communicate with the speaker through a series of telephonically connected microphones. In brief, this description of tele-lecture defines the system implemented to operationalize this Project.

The tele-lecture system implemented for this Project was supplemented with a special long-distance telephone line. This permitted speakers from outside the state of West Virginia to be "tied-in" to the system. For example, an instructor taught a course from Pittsburgh, Pa., and another instructor taught a course from Chicago, Ill. This special long-distance line also permitted consultants or guest lecturers on special topics to be tied into the system at appropriate times.

The tele-lecture system implemented for this Project was engineered as a dedicated line. That is, the long-distance telephone lines for the tele-lecture network throughout the State were reserved on a 24-hours, 7 days per week basis for the exclusive use of this Project. The total cost for the dedicated line was $23,198.85; the line was available on a 24-hour basis for a maximum of 258 days (September, 1970, through May, 1971).

Data collected to determine the feasibility of the tele-lecture network can be classified as objective or subjective. The objective data are those data relating to financial expenditures and student behavior on tests/examinations; subjective data are those professional judgments made by the evaluators and opinions held by students, instructors, nurses, administrators, etc., relating to the effectiveness of the system.

In order to determine the feasibility of the tele-lecture network to deliver continuing nursing education programs, feasibility was defined as a factor composed of four elements. These elements were identified as Economy of Expenditure, Logistics-Technological, Student Learning, and Patient Care.

Economy in Expenditures

The total budget for this Project was $67,935.00. Of this total, $23,198.85 was expended on telephone charges for the dedicated tele-lecture line (34.2 per cent of the total project budget). In order to determine an equitable distribution for the dedicated line charges among the programs delivered by a system, the number of real-time hours (when the system was in actual use) used in delivering each program was determined; these hours are given in Table II, pp. 19-20.

Real-time Tele-lecture Costs. It can be observed in Table II that the system functioned a total of 875 hours (367 hours during the first semester and 508 hours during the second semester). It was calculated that the real-time line charges for each program-hour during the first semester was $25.34; the real-time charges for each program-hour during the second semester was $27.85. Using these real-time charges, the total tele-lecture dedicated line charges was pro-rated for each program, see Table II, pp. 19-20.

Administrative Costs. Administrative costs included the salaries of the Project Director and a Director's secretary; 75.0 per cent of the Project Director's time and 50.0 per cent of the secretary's time were charged to the Project's budget. These costs were pro-rated to the following "basic courses" (see Table II for course titles, the titles are used in Table III): 1B, 1C, 1D, 1F, 1H, 1J, 1K, Nt. 71, Ng. 12, Ng. 11, 1A, 1P, SPA 250, 1E, and 1Q. The pro-rating formula utilized the per cent of real-time each "basic course" consumed of the total real-time for delivering the 15 programs.

Current Expense. Current expense was defined as travel, consultants, evaluation, supplies, equipment, mail charges, bus charges (shipping), and long-distance line charges. The current expense charges were pro-rated, by the formula defined above, to each "basic course;" the basic courses are defined above under Administrative Costs.

Instructional Costs. The Instructional Costs was calculated for each "basic course." Instructional costs included instructor's fee, materials and supplies (audio-tapes, slides, mimeographed learning materials, etc.), instructors travel, and long-distance telephone charges. These costs were not pro-rated but were charged directly to each "basic course" as they were incurred; these costs ranged from $25.00 (Coronary Care) to approximately $2,900 (Dynamic Nursing Management).

Total Cost Per "Basic Course." In order to determine the total costs for each "basic course" the following costs were summed: Real-time tele-lecture costs, administrative costs, current expense, and instructional costs. The total costs per "basic course" delivered over the tele-lecture system are presented in Table III. It can be observed that the 15 "basic courses" required an expenditure of $53,634.12; recalling that the total

Project was budgeted for $67,935.00, approximately 79.0 per cent of the total Project budget was expended for implementing the "basic courses."

The difference between the total Project budget and the total costs for the 15 "basic courses" was $14,301.00; $7,820.00 of this difference was expended on dedicated tele-lecture line charges for all programs not defined as "basic courses," see Table II, pp. 19-20. The remainder of the total Project budget ($6,481.00) was expended in costs not directly related to the tele-lecture programs presented in Table II; these costs included instructional overhead, office machine rentals, travel, communications (mail), etc.

Costs Per Enrollee. It can be observed that the total costs per student enrolled in a "basic course" ranged from $5.86 to $82.83. The mean cost per student enrolled in a tele-lecture course was $25.46.

The Office of Extension Credit, West Virginia University, has determined that the mean cost per student enrolled in an extension credit course during the academic year 1970-71 was $75.60 (for administration, current expense, and instructional costs). The Off-Campus Extension courses conducted through West Virginia University were taught through the traditional method whereby a university professor traveled to a distant point to conduct an extension class.

The mean tele-lecture cost of $25.46 per enrollee per course appears to be significantly lower than the mean cost for conducting a regular university extension course; the mean cost for conducting a traditional university extension courst at West Virginia University during 1970-71 was $50.14 greater than the mean cost for conducting a tele-lecture course.

TABLE III

TOTAL COSTS PER TELE-LECTURE PROGRAM, TOTAL ENROLLMENT, AND TOTAL COSTS PER ENROLLMENT: 1970-71

Course Title	Total Costs	Enroll-ment	Total Cost Per Enrollment
Dynamic Ng. Mgt.	$5,239.11	201	$ 26.07
Mgt., Coronary Care Unit	2,428.06	89	27.28
Nursing Systems	4,472.82	54	82.83
Nsg. Care of the Stroke[3] Patient	6,128.37	118	51.94
Coronary Care[1]	1,357.13	173	7.85
Clergy, Nurse and Doctor-- The Healing Team[1]	2,638.01	450	5.86
Emergency Room Care[1]	2,320.41	95	24.24
Legal Aspects of Nsg.	2,060.79	115	17.92
Nutrition Now, Nt. 71	9,983.31	243	41.08
Life Process, Nsg. 11	3,740.02	230	16.26
Life Process, Nsg. 12[1]	1,731.09	80	21.64
Self Development	3,666.98	241	15.22
Clinical Sessions	1,248.37	40	31.21
Oral Communications, SPA 250[2]	5,853.33	73	80.18
Death and Dying[1]	766.32	85	9.02
Total	$53,634.12	2,106	$ 25.46

[1]Portions of instructional costs were contributed
[2]Instructor taught tele-lecture class and on-campus class simultaneously
[3]Student materials were contributed by another federal project ($15.00/enrollee)

Nutritional Aides. A tele-lecture program, "Continuing Education for Nutritional Aides and Supervisors," was offered during the academic year 1970-71 by the Center for Appalachian Studies and Development. Two professional members of the Center's staff provided the instruction; one of the members was a licensed M.D.

In order to determine the economy and efficiency inherent in delivering the learning program through tele-lecture as opposed to the traditional workshop method, the following determinations were made:

1. The two staff members would have had to travel from Morgantown to Beckley, Parkersburg, Charleston, Keyser, and Weston; a total of 1,557 miles for one complete circuit at a cost of $124.56 for automobile expenses (calculated at $0.08 per mile).

2. The two staff members would be absent from their University offices a total of 16 man-days. This would require an expenditure of approximately $200.00 for meals and lodging for one complete circuit of the five cities.

3. Professional salaries to support the travel time (exclusive of program time) would require an expenditure of approximately $1,000.00 to make one complete circuit of the five cities.

From the above it can be calculated that the expenses incurred in delivering the workshops by the traditional method would require a expenditure of approximately $1,324.56 to make one complete circuit of the five cities. To deliver the complete continuing education program for nutritional aides and supervisors which was delivered by tele-lecture would require 10 complete circuits of the five cities. This would incur an expenditure of approximately $13,245.60 for automobile expense, meals and lodging, and support for professional time (exclusive of program time) incurred during travel. In Table II, pp. 19-20, it can be seen that the complete continuing education program was delivered for a total cost of $1,581.02 in telephone charges; thus, the tele-lecture provided a significant savings in tax dollars and professional time.

Logistical-Technological

Technological. Presented in Figure 1 is a map of West Virginia identifying the cities and hospitals tied into the tele-lecture network. Through the engineering services provided by the C & P Telephone Company, the Project has shown that the technological expertise and equipment development has reached the point where a State-Wide Tele-lecture Network to deliver continuing nursing education programs can be established.

Logistics. A logistical problem which required a large amount of coordination and planning was producing, duplicating, and disseminating audio-visual materials (16mm films, 35mm slides, overhead transparencies, printed materials, etc.) to supplement specific tele-lecture programs. Problems also arose in synchronizing the use of audio-visual materials at the local level with the instructor's lecture. However, with experience on the part of the instructor and the student, this problem was overcome.

Additional logistical problems related to policies and administrative guidelines for the Project. Again, through experience, this logistical communication problem was resolved through the use of the tele-lecture for meetings between the Project Director and the local liaison persons; in addition, regional meetings were held on a face-to-face basis when the need arose in order to further clarify directions or policies.

Student Learning

Specific data collecting instruments relating to the retrieval of data on the change in learning behavior exhibited by the students were not utilized in this Study. In order to assess the degree of academic success by the students, the Project utilized the final grades received by students in Nursing 11, Nursing 12, Nutrition 71, and Speech Pathology and Audiology 250;

FILMED FROM BEST AVAILABLE COPY

Figure 1

DEVELOPMENT OF TELELECTURE AND ASSOCIATE MEDIA SYSTEM FOR THE IMPROVEMENT OF NURSING EDUCATION IN WEST VIRGINIA

the final grades were assigned by the respective instructors. Comparisons were made between the distribution of final grades achieved by students taught by tele-lecture and students taught "on-campus."

SPA 250. SPA 250 was taught, simultaneously, to students in a normal, "on-campus" classroom and through tele-lecture. Each category of students received identical instruction, instructional materials, and tests. Of the 26 tele-lecture students formally registered for University credit in SPA 250, 25 students received a final grade of A and 1 student received a final grade of C. The comparison of the distribution of the tele-lecture grades with "on-campus" grades indicated that the tele-lecture students equaled or surpassed their "on-campus" peer group in final grades.

Nursing 11, Nursing 12, and Nutrition 71. The students formally enrolled for university credit in Nursing 11, Nursing 12, and Nutrition 71 achieved a distribution of final grades which was equal to the distribution of grades received by the on-campus students. The instructors of these courses did not teach the tele-lecture students and the "on-campus" students simultaneously. The identical instructional materials, tests, and lectures were delivered to both groups of students at different times. The respective instructors held the opinion that the tele-lecture students learned as effectively as the "on-campus" students.

Nutritional Aides. The West Virginia University Center for Appalachian Studies and Development utilized the State-Wide Tele-lecture Network to conduct classes in Continuing Education for Nutrition Aides and Supervising Agents. During the first semester, 150 nutritional aides were enrolled in the course; 200 aides were enrolled during the second semester. The nutritional aides were drawn from low-income areas within the State and had a mean age of 42.5 years; their mean educational level was 9.0 years.

Approximately 50 supervisors were enrolled in the course; the mean educational level of the supervisors was the Master's degree.

Table IV presents a summary of incorrect responses exhibited in the administrations of a pre-test and post-test to the nutritional aides enrolled in the Continuing Education Course for Nutritional Aides and Supervisors. Table IV also displays the chi-square value calculated to determine if a significant change had occurred in the nutritional-aides' learning behavior during the pre-test and post-test period. It can be observed that a statistically significant change (beyond the 0.01 level of significance) had occurred in five of seven topics covered during tne tele-lecture program. Those topics in which positive significant learning growth had occurred were: Organizing Material, Weight Watching, Safe Food, Feeding Elderly, and Price Comparison. No sigrificant change occurred in the topics of Infant Feeding and Feeding Youth; the data appears to indicate that the nutritional-aides entered the program with a high degree of knowledge in these two topics.

In summary, it can be stated that students enrolled in the tele-lecture courses learned at the same rate as students enrolled in a traditional university classroom; further, data was retrieved that showed the tele-lecture system could be used to produce significant learning changes. These conclusions are supported by additional research in the area of teaching by tele-lecture.[3]

Presented in AppendixB are complete descriptions of each of the courses delivered by tele-lecture in this Project. Also, the materials

---

[3]David A. Puzzuoli, A Study of Teaching University Extension Classes By Tele-lecture (Morgantown, W. Va: West Virginia University, 1970).

TABLE IV

SUMMARY OF INCORRECT RESPONSES, PRE-TEST AND POST-TEST FOR NUTRITIONAL AIDES ENROLLED IN THE CONTINUING EDUCATION COURSE FOR NUTRITIONAL AIDES AND SUPERVISORS: 1970-71, TELE-LECTURE

No. of Incorrect Responses	Tele-Lecture Topics: Organizing Materials		Weight Watching		Infant Feeding		Safe Food		Feeding Elderly		Price Comparison		Feeding Youth	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
0	0	44	11	29	56	89	0	3	29	46	21	52	34	36
1	5	12	11	33	21	9	3	32	20	25	29	43	53	50
2	10	12	13	26	17		7	41	27	16	31	13	19	14
3	17	16	21	9	5		15	10	19	5	13	5	4	8
4	11	3	11	3	2		15	7	8	1	9	2	1	1
5	15	4	8	1	2		22	1	4	1	9	3	1	
6	13	2	8				16	3	3	2	6	0		
7	10	2	7				11	0	4		6	2		
8	7	0	2				6	0			2			
9	1	1	1				4	1			0			
10	5	2	3				2				3			
11	1		0								1			
12	1		2								1			
13	0		1								1			
14	2		0								2			
15	0		0											
16	0		0											
17	1		1											
No Response	0	1	1	0	0	5	3	5	0	18	0	15	4	7
N	99	99	101	101	103	103	104	104	114	114	135	135	116	116
X^2 value		148.9*		52.7*		4.0		202.7*		11.9*		33.1*		0.6

*Significant beyond the 0.01 level of significance.

presented in Appendix A provides additional remarks relating to each of the courses.

Patient Care

In reality, the ultimate goal of any continuing nursing education program is the improvement of patient care. In evaluating the impact of this Project upon patient care, a series of personal interviews were conducted with hospital administrators and nurses during on-site visits conducted by members of the professional staff of Educational Research and Field Services. It was found that the interviewed hospital administrators were unanimous in their opinions that improved patient care had occurred and it could be directly attributable to the tele-lecture programs delivered through this Project. A majority of the hospital administrators also indicated that the instruction received by their staff through tele-lecture had improved the concept of a "health team" in their respective institutions; that is, the nurses, practical nurses, para-professionals, and other professional staff members were coordinating their responsibilities with specific patients to a greater extent than previous to the tele-lecture experience.

W. Va. Mental Health Hospitals

The State-Wide Tele-lecture Network supported by this Project provided the first opportunity to "tie-in" all of the State's mental hospitals into a viable communications network. The system provided opportunities for the professional staffs of the hospitals and State administrators to communicate with each other on a regularly scheduled basis. This permitted open discussion of issues and problems which arose and needed immediate attention by State officials and local administrators or professional staffs.

Accreditation of Hospitals

During the life of this Project, many hospitals in West Virginia were preparing for accreditation visits and needed assistance and advice in preparing for this experience. Through the State-Wide Tele-lecture Network, a series of programs, involving hospital administrative staffs with well defined policies, procedures, and recent accreditation review experience were given. This information and assistance undoubtedly aided them in evaluating their own situation more adequately for review. A nationally recognized authority discussed the Ameriplan.

On-Site Visits

Members of the professional staff of Educational Research and Field Services completed a series of on-site visits to a stratified, random sample of the hospitals within the network. The sample was stratified in order to obtain an interview sample which included the small, rural hospital, the large metropolitan hospital, and the veterans administration hospital. The purpose of the on-site visits was to identify, through an open-ended personal interview, the opinions held by hospital administrators and nurses relating to the tele-lecture programs, and to determine if the system had met the local continuing nursing education needs.

It should be recognized that the tele-lecture network of this Project serviced a number of kinds of different hospitals throughout the State. The hospitals varied from the small, rural hospital with less than 100 beds to the large veterans hospitals with over 200 beds. Also, the staffs of the various hospitals varied in their professional education, experience, etc. For example, the large metropolitan hospitals had staffs

that had achieved a higher level of general education; whereas in the small, rural hospitals the overall level of education was, generally, lower.

However, no matter what the classification of the hospital, the general concensus was that the tele-lecture was providing a relevant and appropriate opportunity to meet the continuing nursing education needs of the State. .Strong support was found for the effectiveness of delivering continuing nursing education programs by tele-lecture.

The enthusiasm and support generated for the system is reflected in the numbers of persons attending tele-lecture programs at the local level. It was found that many persons---including cooks, dieticians, nurses aides, nurses, physicians, administrators, etc.---attended the tele-lecture programs who were not formally enrolled. Therefore, the enrollment data provided in this Report is very minimal. It would be most difficult, if not impossible, to determine the exact enrollment of the tele-lecture programs.

The value of the tele-lecture programs is reflected in the number of requests the Project received and approved for audio-taping specific programs at the local level. That is, many hospitals requested and received permission to audio-tape each program on cassette-tape recorders; the hospitals reported that many members of their staffs would listen to the audio-tapes at their convenience.

Accessibility. It is difficult to measure the extent the ease of accessibility provided by the tele-lecture system had upon the motivation of participants to continue their education. Many of the hospitals, especially the small, rural hospital, indicated that none of their staff would have participated in any form of continuing education if the State-Wide Tele-lecture Network had not been established. From information retrieved

through interviews, it can be assumed that a large majority of the students would not have had access or would have been motivated to participate in continuing nursing education learning experiences, especially in isolated rural communities, if it were not for the tele-lecture system.

General Observations. The following statements are being offered as paraphrases of quotations which reflect the opinions held by hospital administrators and nurses relating to the State-Wide Tele-lecture Network.

1. There was a general feeling that the tele-lecture had not begun to reach its potential for continuing nursing education programs. The hospitals appear to indicate that the tele-lecture has even greater potential than exhibited through this feasibility study.

2. Many nurses stated they were unaware that there were such dramatic changes in health care since they had participated in some of the early nursing education programs.

3. Many nurses indicated that the tele-lecture programs stimulated the reading of professional journals and other kinds of articles related to nursing. The tele-lecture was a definite influence upon their reading habits and provided motivation for more learning.

4. The professional nurses indicated that the interactions received through tele-lecture stimulated their thinking and professional behavior. The tele-lecture network provided an opportunity for an interchange of ideas, methods, and practices among the professional nurses of the State by providing them a viable avenue of communication.

5. The tele-lecture stimulated a greater amount of professional discussion among local staff members.

6. There was a degree of anxiety exhibited by many of the interviewees that the Project would be discontinued and they expressed a hope that "somehow" the network could be supported on an on-going basis.

Identifying Dysfunctions. The monitoring of the system through an on-going evaluation program provided invaluable "feedback" to the Project to allow for the correction of dysfunctions within the system. The dysfunctions were identified through meetings (by tele-lecture and face-to-face meetings) of liaison persons and the project director, meetings between

the project director and representatives of the electronics communications industry, on-site visits to local hospitals, personal interviews with students and instructors, and observing unobtrusive measures.

The primary dysfunctions identified by the participants related to: (1) specific times tele-lecture programs were delivered, (2) programs to meet the needs of individual students, (3) logistical time necessary to evaluate tests and notify students of their grades, (4) length of lectures, (5) notification of the kinds of programs (and their descriptions) to be offered by the system, (6) student advising, (7) developing continuing education programs for medical secretaries, receptionists, and other kinds of hospital personnel, (8) supplementary learning materials, (9) the level of competence of the student in relation to the degree of sophistication of specific programs, and (10) the communication process between hospitals and the Project.

A close examination of the dysfunctions identified by the participants indicates they supported the system and were simply providing comments to assist in the improvement of benefits and opportunities provided by the system. Where possible, under the limitations of personnel, policies, financial support, and time, the project director made concerted efforts to correct or modify the system to meet the identified dysfunctions.

Summary

Data and information presented in this section of the Report indicates that the Project was an unequivocal success. The Project has shown that it is feasible to establish a State-Wide Tele-lecture Network for delivering continuing nursing education programs. The Project was feasible in terms of expenditures, logistics, technology, student learning,

and patient care.

Experiences and knowledge gained through this feasibility study should prove useful in improving the efficiency, effectiveness, and economy in continuing the Project in West Virginia and implementing similar projects in other states.

CONCLUSIONS AND RECOMMENDATIONS

The general purpose of this Project was to improve the continuing nursing education opportunities in West Virginia. Data/information presented herein appears to indicate that this Project has provided the State of West Virginia with a quantum jump in improving opportunities for continuing nursing education in the State.

The primary objectives of the Proposal submitted to the U.S. Department of Health, Education, and Welfare included the following objectives:

1. To develop an effective, adequate, and feasible communications system for providing continuing nursing education opportunities between the West Virginia University School of Nursing, practicing nurses, and allied health workers throughout the State.

2. To plan, organize, and implement programs which will meet the continuing education needs of nursing and allied health worker in West Virginia.

3. To evaluate and perfect the established program to the point where in functions effectively.

4. To plan with a participating agency for on-going support for this activity after the termination of the Project.

Success in Meeting Objectives

Objective One. Under the parameters and definition of feasibility provided within this Study, the Project has successfully shown that an effective, adequate, and feasible alternative communications system for delivering continuing nursing education programs can be implemented through the use of tele-lecture.

Objective Two. The Project was successful in planning, organizing, and implementing programs to meet the continuing nursing education needs of West Virginia. This conclusion was strongly supported through personal interviews during the on-site visits.

Objective Three. Through an on-going evaluation model, the Project was constantly being monitored and "feed-back" information relating to the status of the system was important in meeting objective three. The effectiveness of the program was greatly increased during the second semester in comparison to the effectiveness achieved by the system during the first semester.

Objective Four. As of this date, this objective has not been achieved. However, it is anticipated that with continued external support the objective will be achieved in the near future. This conclusion is supported by the fact that each participating hospital paid a rental fee of $25.00 per month for the 50-A Conference Set and supported the initial installation charges. It is being hypothesized that the hospitals' perceptions of the value of the system will improve to the extent that they will underwrite a considerable amount of the costs. Negotiations with West Virginia University may prove fruitful in obtaining additional funds to support the Project.

Recommendations

1. It is recommended that the West Virginia State-Wide Tele-lecture Network for continuing nursing education be continued and further evaluative research be conducted in order to more completely develop the system.

The Project has been an unlimited success in showing that it is feasible to implement a tele-lecture network as an alternative for delivering continuing nursing education programs. However, further development should be undertaken in order to determine: (1) the conditions under which optimum student learning occurs, (2) the proper mix of lecture, student-professor interactions, supplementary learning materials, audio-visuals, etc., necessary to optimize the learning experience, (3) the optimum behavior

of the tele-lecture professor, and (4) variables which affect the learning behavior and motivation of students.

2. It is recommended that replications of this Project expend adequate time in the planning phase of system implementation.

The success of this feasibility study can be credited to the degree and kind of planning procedures and processes established prior to and during the operationalizing phase. The system must be adequately staffed with expertise in (1) management, (2) curriculum building, (3) developing audio-visual aides, and (4) instructional skills. The staff should work as a resource team with the instructor to insure that learning through tele-lecture is maximized. The Project should support personnel experienced in research and evaluation to develop a "closed loop system" in order to provide feedback for system modification and correction.

3. It is recommended that close liaison with the various client groups to be serviced by a tele-lecture network become a high priority item.

It is a general axiom that many innovative and exemplary educational projects become stagnant and institutionalized unless the Project is consistently aware of the needs of its clients. A tele-lecture network for continuing nursing education must remain highly flexible and responsive to its clients. In order to accomplish this, it is necessary to establish and constantly maintain a close liaison with its client groups. This will assist the system in (1) identifying continuing nursing education needs, (2) recognizing individual difference in hospitals and students, and (3) monitoring the system's effect upon student learning and patient care.

4. It is recommended that measurable objectives be developed for each program delivered by tele-lecture.

The nursing profession, as with other public agencies, is entering the era of accountability. Inherent in any definition of accountability are the factors of time, cost, and performance. The first step in the development of any accountability model is the development of program objectives that can be adequately measured. One should remain cognizant of the axium that only chance can render any system adequate when specification of the desired output does not exist.

****

Presented in Appendix C are photographs illustrating the 50-A Conference Set, telephone representatives instructing Project staff on the use of the 50-A, and students participating in tele-lecture programs.

APPENDIX A

TELE-LECTURE COMMUNICATIONS SYSTEM

TITLE HOURS PER WEEK	SEM. HOURS	COURSE NO.	CREDITS	CEU	INSTRUCTOR
Survey of Oral Communications 3 - 50 periods once a week	45	SPA 250	3	4.5	Dr. Glen P. McCormick
Elementary Nutrition Twice per week 1 1/2 hours	45	F.N.71	3	4.5	Dr. Margaret Wilson
Life Process, Birth-Adolescence 1 hour per week plus 1 hour	15	Nsg. 11	2	2.0	Jackie Lunianski
Life Process, Adolescence - Senescence 1 hour per week plus 1 hour	15	Nsg. 12	2	2.0	Dean Lorita Jenab
*Introduction to Professional Nursing 2 ½ hours per week	45	Nsg. 18	3	0	Gearlean M. Slack, Co-ordinator Lois E. O'Kelley presented several classes from Parkersburg Center to students at WVU

Mental Retardation & Other Handicapping Conditions	18-20	1 S	0	2.0	Nancy Jackson, Co-ordinator
Medical-Surgical Nursing Care	19-20	1 T	0	2.0	Lou Shaffer Co-ordinator
Coronary Care Nursing	2	1 V	0		Dr. William H. Carter Co-ordinator
Nursing School Faculties	1 hr. every other week	1 W	0	0	To be named
Aging in W.Va.: Challenge and Opportunity	12	1 Y	0	1.2	Jack Rodgers Co-ordinator
Mental Health Nursing Staff	15	Discussion	0	0	Eileen Tuey Mental Health Ed. Director Co-ordinator

* LIMITED TO STUDENTS REGISTERED AT WVU

** LIMITED TO STUDENTS REGISTERED FOR NSG. 18 AT W.VA. PARTICIPATING INSTRUCTOR IN PARKERSBURG (LOIS O'KELLEY PARTICIPATED FROM PARKERSBURG TO WVU).

TITLE HOURS PER WEEK	SEM. HOURS	COURSE NO.	CREDITS	CEU	INSTRUCTOR
** Intro to Nursing Research 1 hour	11	Nsg. 170	2	0	Barbara Weller (2 students at Ohio Valley Gen. Hosp. 2 students at Parkersburg Center enrolled in course at W.Va.)
Self-Development for In-Service Directors 12 sessions 45 min. - 1 hour	12	1A	0	1.2	Joan Ganong
Dynamic Nursing Management 21 sessions 1 hour	21	1 B	0	2.0	Joan Ganong
Management of Coronary Care Units 1 hour 9:00-10:00, Thurs.	12	1 C	0	1.0	Joan Ganong

TITLE HOURS PER WEEK	SEM. HOURS	COURSE NO,	CREDITS	CEU	INSTRUCTOR
Nursing Systems & Guidelines (writing Nsg. procedures) 10 sessions 1 - 1 1/2 hours	10	1 D	0	1.5	Warren Ganong
Coronary Care 1 hour	16	1 E	0	1.6	Dr. Robert Marshall
Nursing Care of Stroke Patient 1 hour	16	Nsg. 1F	0	2.6	Mary Frances Borgman
Clergyman, Doctor, Nurse - Healing Team 1 - 1 1/2 hours	15	1 H	0	1.5	John Rodgers, Co-ordinator
Program Series - W.Va. School of Nsg. Faculty 1 hour	10	1 I	0	0	Dean Lorita Jenab, Co-ordinator
Emergency Room Care 1 hour	15	1 J	0	1.5	Louise Symons, Attn. 3 hours Catherina Bordicks 4 hours Dr. Tarnay

TITLE HOURS PER WEEK	SEM. HOURS	COURSE NO.	CREDITS	CEU	INSTRUCTOR
Legal Aspects - Health Care 10 Sessions 1 - 1 1/2 hours	15	1 K	0	1.5	Louise Symons
Program Series - Population Explosion 1 hour	4-5	1 L	0	0	Dr. David Davis Dr. Warren Hern, others
Tumor Clinic 1 hour	15	1 M	0	0	Dr. Alvin Watne
Clinical Sessions 1 hour	10	1 P	0	1.0	Multidisipline Lois O'Kelley Dr. Covey
A Study of Death and Dying 1 hour	6	1 Q	0	0.6	John A. Rodgers, Co-ordinator
Discussions on Accreditation an Ameri-Plan 1 - 1 plus 15 min.	13-14	1 R	0	0	Eugene Staples, Co-ordinator
Mental Health Staff					

APPENDIX B

Telelecture Classes Fall Semester 1970-71 -
Spring Semester 1971-72

Nsg. 170 Introduction to Nursing Research 2 hour credit (16 hours)
Instructor -- Barbara Weller
Introduction to research in nursing with special reference to its utilization in improvement of patient care. Considers the theory of nursing and the use of scientific criteria in evaluation of current nursing research.

Telelecture communication made it possible for two nurses taking formal nursing credit at West Virginia University and working at Ohio Valley General Hospital, Wheeling, West Virginia and two at Parkersburg Center, Parkersburg, West Virginia to participate in this course at West Virginia University with their class. They remained at their work site rather than commute 166 miles to and from Wheeling and 246 miles from Parkersburg each class period which would have meant each missing an entire day's nursing service.

1A Self - Development for In - Service Directors
CE, CEU (1.2 units) 12 Sessions -- 45 minutes to one hour each. Total of 12 hours
Mrs. Joan Watson Ganong, R. N.
Nurse Consultant and Vice - President
W. L. Ganong Company
Consultants to Management
Pittsburgh, Pennsylvania 15222

Directors of Nursing Service identified one of their major needs was assistance with in - service education. Many of the participating hospitals do not have a prepared in - service director so this course was planned with this fact in mind.

Purpose

This course topic is intended for Directors of In-Service departments or for those who perform that function in the absence of a director. It is geared toward self development for those involved in the teaching and learning process of the adult learner in a nursing care work situation.

Objectives

Upon completion of this course topic, each director should have been assisted to:

- Identify and utilize beliefs and objectives for herself and the programs for the nursing staff
- Utilize newer teaching methods for the adult learner
- Relate basic human needs to the adult learner situation
- Identify needs of the learner
- Involve the adult learner in programs

Class Topics Included:

I. Identification and development of staff potential

   A. Developing a philosophy of teaching and learning for the adult learner

   B. Adapting a philosophy to teaching the adult learner

   C. Objectives based on philosophy

   D. Concepts of teaching in nursing -- the role of in-service education

II. Fundamental principles of teaching and learning -- self development

III. Responsibilities of In-service and nursing staff to self, nursing, patient and society

IV. The purposes of staff development for the individual and the organization. The teacher-learner relationships in an in-service situation.

V. The stages of instruction and application of principles to methods of teaching the adult learner

   A. Preparation
   B. Communication
   C. Fixing the impression
   D. Evaluation

VI. Tools for accomplishing application of principles

A. Preparing materials for teaching
B. Utilizing teaching tools and skills
C. Value of involvement

Classes were scheduled each Monday 8:30 - 10:30 a.m. to allow for discussion

Repeats on Wednesday 2:00 - 4:00 p.m.

A syllabus (27 pages) included a current bibliography, outline and charts were provided each student

1B

Dynamic Nursing Management
21 sessions of one hour each CEU 2.0
Mrs. Joan Watson Ganong, R. N.
Nurse Consultant and Vice - President
W. L. Ganong Company
Consultants to Management
Pittsburgh, Pennsylvania 15222

Purpose

This course topic is intended for nurses involved in the delivery of nursing care services to patients. Those who can benefit directly from the experience include Directors, Associates, Assistants, supervisors, head nurses, team leaders and their equivalents.

Objectives

To assist each nurse-manager upon completion of the course to:

- Utilize the basic needs of people in her role as a nurse-manager
- Relate newer concepts of management to her position
- Utilize management skills, set and meet goals in performing her job
- Build vitality into her contacts with people and patients

Topics Discussed

I. Introduction of the ACT-U-AR concept and its use in building vitality into management

II. The basic human needs and their relevance to the nurse-manager's job and nursing care

   A. The needs
   B. Motivation
   C. What people want

III. The "new management" as it relates to the nurse-manager and her performance responsibilities

   A. Management by participation
   B. Management by objectives

IV. Management skills as they apply to the nurse-manager, the nursing team and the patient

   A. Planning and organizing
   B. Delegating and decision making
   C. Communicating
   D. Evaluating
   E. Nursing care plans

Syllabus -- 31 Pages

1D

Nursing Systems and Guidelines for Writing Procedures
10 sessions of 1 - 1½ hours each (total 10 hours)
1.5 CEU Units
Instructor -- Warren Ganong, President
W. L. Ganong Company
Consultant to Management
Pittsburgh, Pennsylvania 15222

Purpose

This course is designed for nurses involved in the writing and revising of nursing procedures. The systems and principles involved will be extremely useful to the Director of Nursing and her professional nurse staff. A modern simplified format and committee system is intended to assist with the preparation and continual up-dating of procedures.

Objectives

To assist the participants upon completion of this course topic to be able to:

- Identify need for new and revised nursing procedures
- Write clear, simple nursing procedures following a simple, effective format
- Utilize standard guidelines in the preparation of procedures
- Identify opportunities for simplification of procedures
- Utilize simple techniques for analyzing work methods and reducing the time required
- Work effectively in a committee setting and contribute to its structure and function

An important part of the course activity is intended to involve every participant in an on-the-job procedure committee experience. Thus, by the end of the course the participants will have completed the several steps required for writing one or more nursing procedures, i.e., observation, work analysis, improvement of method, writing the procedure following standard guidelines and format, and testing it through the 4-step instructional approach.

SPA 250 **Survey of Oral Communication Disorders** 3 hr. CEU 4.8 Units

Instructor: Dr. Glen P. McCormick
Coordinator, Speech Pathology-Audiology
Division of Clinical Studies
College of Human Resources and Education
West Virginia University

A survey of basic concepts and principles of the disorders of speech and their treatment. Primary attention is given to the more common speech deviations. Normal speech and hearing development of children is considered. This is an orientation course for nurses, teachers, school administrators, psychologists, rehabilitation workers as well as students majoring in speech.

Recommended Text: Speech Correction, Principles and Methods
4th Edition; Charles Van Riper
Cost $9.95 + $.50 handling charges

CLASS TOPICS

CLASS 1 - Introductory Remarks
The History of the Care of the Handicapped
The Traditional Public School Educational-Medical Model
The Impact of Senate Bill 44 - Mandatory Special Education Act on West Virginia Schools
Definitions of Speech and Language
The Human Biocommunications System
Anatomical
Physiological

CLASS 2 - The Incidence of Speech and Hearing Disorders in the Nation and in West Virginia
Classification Systems for Communication Deficits
Credentials in Speech and Hearing
The Availability of Speech and Hearing Services in West Virginia
The Development of Speech and Language
The Delayed Speech and Language Syndrome

CLASS 3 - The Physiology of Articulation
Articulation Deficits
Articulation Testing
Articulation Therapy
Voice Disorders
Fundamentals of the Human Larynx
Theories of Phonation
Non-organic Voice Disorders
Organic Voice Disorders
A laryngeal speech techniques

CLASS 4 - Stuttering
Historical Aspects
Theories of Stuttering
Dysphemic
Neurotic
Developmental
Multiple
The Emotional Ramifications of Dysfluency
The Development of Stuttering in Children
The Behavioral Characteristics of Confirmed (i.e. Secondary) Stutterers
Modifying Stuttering Behavior

GENERAL COURSE INFORMATION, cont'd . . . .

CLASS 5 - Cleft Lip - Cleft Palate
- Embryological Development of the Human Face
- Normal Palatal Anatomy
- The Development of Clefts
  - Classification Systems
  - Incidence Figures
- Speech Characteristics
- Corrective Procedures
  - The Cleft Palate Team
- The Involvement of Agencies in Cleft Palate Management

CLASS 6 - The Communication Problems of the Cerebral Palsied
- Definition: Cerebral Palsy
  - Motor Aspects
  - Sensory Aspects
  - The Feedback Loop
- Classification Systems
  - Spasticity
  - Athetosis
  - Ataxia
  - Rigidity
- Casual Factors
  - Common Clinical Correlates
- The Community Responsibility for the Care of the Cerebral Palsied
  - Physical Therapy
  - Occupational Therapy
  - Speech and Language Therapy
- Family Dynamics

CLASS 7 - Diagnostic Elements of Mental Retardation
- The West Virginia University Pediatrics - Mental Retardation Study Grant

Test # 1 - Covering all lectures and reading assignments through October 6, 1970.

GENERAL COURSE INFORMATION, cont'd . . . .

CLASS 8 - Language Deficits in the Stroke Syndrome
- The Speech Mechanism as a Servo-system
- The Language Mechanism Postrelated by Penfield and Roberts
  - Expressive Language
  - Receptive Language
- Synthesized Speech

The Nature of Aphasia
- Famous Personalities in Aphasia
- Therapeutics
  - Franz Josef Gall
  - Localizationists
  - Non-localizationists
- Etiological Factors

The Non-language Characteristics of Aphasia

Communicative Breakdown Associated with Aphasia

Aphasia Therapy
- Diagnostics
- Primary Stage
- Secondary Stage

The Psychology of Dieing

CLASS 9 - Speech Therapy in West Virginia's Public Schools
Mrs. Pamela S. VanSuey, M.S.
Monongalia County Schools
Morgantown, West Virginia

Speech and Hearing in West Virginia's Hospitals and Special Treatment Centers
Dr. William T. Brandy, Chief of Audiology
Speech Pathology - Audiology
West Virginia University

The Care Available for the Deaf and Hard-of-Hearing in West Virginia
Miss JoAnn Layne, M.Ed.D.
Speech Pathology - Audiology
West Virginia University

The Anatomy and Physiology of the Human Ear

The Transformation of Energy in the Process of Hearing

GENERAL COURSE INFORMATION, cont'd . . . .

CLASS 10 - The Decibel - A Unit of Measurement
Audiograms
Normal Hearing vs. Audiometric '0'
Determining the Degree of Hearing Impairment
- Decibel Equivalents
- AAOO Percentage Hearing Loss
- Social Adequacy Index

The Psychology of Deafness
- Primitive Level of Hearing
- Warning Level of Hearing
- Signal Level of Hearing

CLASS 11 - Middle Ear Diseases
- Eustachian Tube Potency
- Mastoiditis
- Cholesteatoma
- Mastoiditis

Conductive Hearing Loss
Pure Tone Audiograms
- Air Conduction Hearing
- Bone Conduction Hearing

Speech Audiometry

CLASS 12 - The Hearing Test Battery
Hearing Aids
- Historical Aspects
- Body Aids
- Ear-level Aids
- In-the-Ear Aids

Hearing Aid Dealers
Legal Aspects of Hearing Aids
- Sales and Service

CLASS 13 - Aural Rehabilitation (Dr. Brandy)
Deaf Education Techniques (Miss Layne)
Improving the Status of Rehabilitation in West Virginia

CLASS 14 - (left free to provide lecture time if instructor falls behind in announcement lecture schedule)

QUESTION AND ANSWERS

CLASS 15 - Final Examination - Covering all lectures and reading assignments from October 13th through December 1st.

NTS-71 NUTRITION NOW 3 hrs. CEU - 4.5 Units CE

Instructor: Dr. Margaret A. Wilson
Director of Education
The American Dietetic Association
620 North Michigan Avenue
Chicago, Illinois

Essentials of adequate diet; applications are made with particular reference to needs according to age groups and specific disease conditions.

Recommended Text: No specific text required.

Lecture	Topic	Slides
	Pre-Test (Not to be graded)	
1	What Is Nutrition ?	Slides 1 - 58 (red dots or red pencil)
2	Hunger and Malnutrition	
3	Hunger and Malnutrition Cont'd	(11 slides with gold dots)
4	Nutrition Education and Malnutrition Dietary Evaluation - Introduction to Diabetes (Part 1)	
5	Diet and Diabetes (Part 2)	Slides 1 - 21 green dots or green pencil numbering
6	Diet and Diabetes (Part 3)	
7	Weight Control (Part 1)	
8	Weight Control (Part 2)	
9	Weight Control (Part 3)	
	Discussion	
	Test - Unit 1	

UNIT ONE

	Lecture	Topic	Slides
U	10	Nutrition in Cardiovascular Health and Disease (Part 1)	Slides 1 - 6 Blue dots or Blue pencil numbering
N	11	Nutrition in Cardiovascular Health and Disease (Part 2)	
I	12	Nutrition in Cardiovascular Health and Disease (Part 3)	
T	13	Nutrition - The Gastro-intestinal Tract (Part 1)	
	14	Nutrition - The Gastro-intestinal Tract (Part 2)	
T	15	GI.Cont'd- Malabsorption (Part 2)	
W	16	Nutrition in Renal, Alcoholism, Liver, and Gall Bladder Conditions	
O		Discussion	
		Test - Unit II	

	Lecture	Topic	Slides
U	17	Pediatrics Care and Consequences (Part 1)	
N			
I	18	Nutrition in Pediatrics Cont'd (Part 2)	
T	19	Nutrition in Pediatrics Cont'd (Part 3)	
T	20	Nutrition of the Adolescent	
H	21	Nutrition in Pregnancy	
R	22	Nutrition in the Aged Followed by Discussion	
E		Unit III - Test	
E			
U F	23	Food Faddism Discussion	
N O			
I U			
T R			

Final Examination

NSG 11 THE LIFE PROCESS 2 cr. CE, CEU - 1.5 Units

Instructor: First and second semester 1970-71
Jacqueline Lunianski, Assistant Professor, Maternal Child Health Nursing.
First semester 1971-72
Fredona Stenger, Associate Professor, Pediatric Nursing

The Life Process is a course in which the developmental progress of children from birth through adolescence will be studied. We will consider physical, psychological and environmental factors.

Teaching Methods - Lecture, discussion and films.

Objectives:
1) Understanding of physical, psychological and environmental factors which interact to influence human growth and development.
2) An ability to recognize normalcy in children as a positive thing, not an amtithesis to disease.
3) Development of skills essential to evaluating the growth and development of children.

Units:
I - Factors Influencing Child Development
II - Infancy
III - The Toddler
IV - The Pre-Schooler
V - School-Aged Children
VI - The Adolescent

Required Textbook: Stuart, Harold C. and Prugh, Dane. G.
The Healthy Child
Massachusetts: Harvard University Press

Although not required, a great deal of material throughout this course will be drawn from Erik Erikson's Childhood and Society. This will be available in the library but might be a valuable addition to your personal library.

Handouts:
Information Sheet
Ross Packet
Class Schedule
Bibliography
Newborn Guide
Nutrition Guide
Comparative listing of Developmental Tasks

CLASS SCHEDULE

The films were rented and one set of the series purchased to facilitate viewing in the hospitals where students enrolled.

TOPIC	FILM	QUIZZES
Overview and Introduction		
Concepts of Mental Health	Children's Emotions 22 minutes	
Childrearing Patterns Mother Child Relationships	Mother Love 26 minutes	
The Newborn	Evaluation of the Newborn - filmstrip	
Developmental Tasks of Infancy	Phenomena of Early Development 10 minutes	Quiz I
The Toddler	Terrible Twos and Trusting Threes 20 minutes	
The Pre School Child	Frustrating Fours and Fascinating Fives 22 minutes	
The School Aged Child	Sociable Sixes to Noisy Nines 22 minutes	Quiz II
The Adolescent	Teens 26 minutes	
Final Examination	2 hours	

* * * * * *

NSG 12 LIFE PROCESS (Continuation of Growth and Development from Adolescence Through Senescence)
2 hrs. CE, CEU - 1.5 Units

Instructor: Dr. Lorita Jenab

NSG 18 INTRODUCTION TO PROFESSIONAL NURSING 3 hrs.

Coordinator: Gearlean M. Slack

An inter-departmental course to assist the registered nurse student in developing understanding basic to professional nursing. Focuses on the commonalities in nursing.

Open only to nursing students enrolled in regular Nsg. 18 classes at West Virginia University. This communication system made it possible for a member of the West Virginia University School of Nursing Faculty to contribute her expertise in five classes from her location in Parkersburg, thereby conserving an entire day's travel each time.

* * * * * *

1E CORONARY CARE CE, CEU 1.6 Units

Instructor: Dr. Robert Marshall

Objectives:

1) To enhance and update the knowledge of nursing personnel caring for patients in cardiac care units.

2) To increase the professional nurse's skill in interpreting electrocardiograms

Some Specific Topics:

Heart Block
Pacemakers
Drugs used in Coronary Care
Rhythm Strips

* * * * * *

1F NURSING CARE OF STROKE PATIENT CE, CEU - 2.6 Units

Instructor: Mary Frances Borgman

This course is based on the investigation, ramifications, and implications of Eric Hodgins comment "Stroke is like nothing else on earth." Focus is on the students' increased awareness of the care of stroke patients in their own situations. Independent instruction booklets and programs will be used in conjunction with weekly instruction.

All students were provided the following materials:

Book and Booklets:

_____. A Handbook of Rehabilitative Nursing Techniques in Hemiplegia, Kenny Rehabilitation Institute: Minneapolis, Minnesota 55404.

_____. Aphasia and the Family. Local chapter American Heart Association.

_____. Do It Yourself Again. Local chapter American Heart Association.

_____. Guidelines for the Practice of Nursing on the Rehabilitation Team, American Nurses' Association: New York, New York, 10019.

_____. Homemaking Aids for the Disabled, American Rehabilitation Foundation: Minneapolis, Minnesota 55404.

_____. Nursing Care of the Skin, American Rehabilitation Foundation: Minneapolis, Minnesota 55404.

_____. Rehabilitative Aspects of Nursing - A Programmed Instruction Series. Part I Physical Therapeutic Nursing Measures. Unit I. Concepts and Goals. Unit II Range of Joint Motion, National League of Nursing, New York 10019.

_____. Strike Back at Stroke, Superintendent of Documents, U.S. Government Printing Office - Washington, D.C. 20402 or American Heart Association.

_____. Strokes - A Guide for the Family. Local chapter of American Heart Association.

_____. Up and Around - A Booklet to Aid the Stroke Patient in Activities of Daily Living, United States Government Printing Office - Washington, D.C. 20402 or American Heart Association.

1H CLERGYMAN, DOCTOR, NURSE - THE HEALING TEAM CE, CEU 1.5 Units

Coordinator: Jack Rodgers

Objectives:

To understand the patient's needs.
To deal with the moral issues that have emerged with modern medicine.
To explore the relationships of the healing team staff.
To set the climate for improved staff relationships.

A THREE PHASE PROGRAM

Phase I (5 sessions) Sessions 1 - 5

The People We Serve
Resource Leaders: Rev. Jack Weller, author of "Yesterday's People", and a research sociologist.

Phase II (5 sessions) Sessions 1 - 5

Where Is the Pastor In the Team Relationship
Resource Leaders: Clinical Pastoral Education Chaplain, W. Va. University Medical Center Staff

Phase III (5 sessions) Sessions 1 - 5

Facing Moral Dilemmas In Medicine
Resource Leaders: Clinical Pastoral Education Chaplain, W. Va. University Medical Center Staff

* * * * * *

1I WEST VIRGINIA SCHOOL OF NURSING FACULTY CE or Staff Development

Coordinators: Dr. Lorita Jenab
Margaret Wyatt

Objectives:

General discussion of topics of mutual interest and/or concern to nurse educators.
Preparation for Workshop in August, 1971.

* * * * * *

1J EMERGENCY ROOM CARE CE, CEU 1.5 Units

Coordinator: Gearlean Slack

Objective:
To present current information on specific topics relating to emergency care. Requested by the hospital staffs participating in telelecture.

1. Legal aspects of Emergency Room Care - Louise Symons

2. Shock - Catherine Bordicks

3. General approach to Emergency Care - Dr. Tarnay

4. Care of the Burn Patient - Dr. Anthony Harrison, M.D.
   Dr. John C. Gaisford, M.D.
   Mrs. Shirley Hornfeck, R.N.
   Dr. Scott I. Allen, M.D. - N.I.H.

5. Care of the Emergency Patient with an Orthopedic Condition - Dr. Justus Pickett

* * * * * *

1K LEGAL ASPECTS OF HEALTH CARE CE, CEU - 1.5 Units

Instructor: Louise Quinn Symons

Text: Nursing and the Law - Aspen Systems Corporation

Topics:

Sources of the Law
Malpractice
Licensing
Consents
  Informed consent
  Assault and Battery
  False Imprisonment
Medical Records
  Reporting Requirements
Drugs
  Federal and State Control
  Licensing Laws
  Negligence Cases
  Joint Commission Standards
Medical - Moral Issues
Health Care Workers and Society
  Civil Rights
  Good Samaritan Acts
  Contractual Agreements
  Adoptions

Objectives:

To better comprehend the basic sources of the law.

To develop an appreciation of the interrelated legal responsibilities of the various professional workers rendering health services.

To better comprehend the legal basis for malpractice or negligent action in professional practice and how such claims may be prevented.

To give an opportunity to survey current health and welfare legislation affecting the delivery of health care.

I	Sources of the Law	142 - 160
II	Malpractice	
III	Licensing	
IV	Licensing as it Relates to Negligence	
V	Consents	
	Informed Consent	
	Assault and Battery	
	False Imprisonment	
VI	Medical Records	
	Reporting Requirements	
VII	Drugs	
	Federal and State Control	
	Licensing Laws	
	Negligence Cases	
	Joint Commission Standards	
VIII	Medical - Moral Issues	117 - 127
IX	Health Care Workers and Society	
	Civil Rights	
	Good Samaritan Acts	
	Contractual Agreements	
	Adoptions	
X	OPEN - Special Problem Areas	

* * * * * *

11. POPULATION EXPLOSION PROGRAM SERIES

Interested persons -- No CE or CEU Units

Dr. David Davis

Dr. Warren Hern, etc.

Continuing Education

for

Nutrition Aides and Supervising Agents

Goals (1) Improve cognitive knowledge of nutrition aides and supervising agents via structured programs on nutrition subjects.
(2) Effect statewide coordination of program input.
(3) Improve quality of program input (training of aides)
(4) Reduce staff travel time and money.

Topics -
1. Getting Started
2. Weight Watching
3. Infant Feeding
4. Poisons in the Home
5. Safe Food
6. Feeding the Elderly
7. Price Comparison
8. Gardening
9. Feeding Youth

Hours - each contact 90 minutes for 9 programs to each of 6 areas (61 hours total contact).

Audio-visual Aides

1. Slide materials collected by speakers
2. Art work, photography by Appal. Center Information and Education Technology
3. Basic program taped in radio studio by radio and the specialists
4. Each program utilized average of 20 original slides (with duplication = 1500 slides)

Reading materials, manuals.
The following are original W. Va. U publications for tele-lecture:

What Good Foods Can do For You
Meal Planning for Your Family
Food Buying
Food Storage
Infant Feeding
Poisons in the Home
Aides Guide to Gardening

Additionally 12-USDA leaflets for supplementary use were recommended during the year as well as 8 leaflets from National Dairy Council, 1 from Wheat Institute, and 12 State Agency publications.

1P CLINICAL SESSIONS CE, CEU 1.0 Units

Discussion of special topics requested by participants.

Shock - Catherine Bordicks
Care of Patient with Tuberculosis - Lois O'Kelley
Care of Patient with Cancer - Dr. Covey

* * * * * *

1Q A STUDY OF DEATH AND DYING CE, CEU 0.6 Units

Coordinator: Jack Rodgers

Objectives:

To consider the needs of the person facing death.

To perceive the concepts of death in sociology, psychiatry, religion and practical terms.

To consider problems, methods and challenges in counseling the dying and the bereaved.

Program:

Session 1 "On Death and Dying". Dr. Elisabeth Kubler-Ross Ph.D., Medical Director, Family Service and Mental Health Center, South Cook County, Illinois.

Session 2 Dr. Elisabeth Kubler-Ross

Session 3 "The concept of death in the Judeo-Christian tradition." Dr. Manfred O. Meitzen, Ph.D., Professor and Chairman, Religious Studies Division, College of Arts and Sciences, West Virginia University.

Session 4 "The sociology of death. A social worker looks at death." Dr. Leon H. Ginsberg, Ph.D. Professor and Director, Social Work, West Virginia University.

Session 5 "A psychiatrist provides a concept of death." Dr. Donald C. Carter, M.D., Ph.D., Associate Professor, Psychiatry and Behavioral Medicine and Director Out-Patient Clinic, Department of Psychiatry, West Virginia University.

Session 6 "Practical observations and experiences of death in the eyes of the funeral director." Mr. Elwood B. Laughlin, college graduate, funeral director, church layman.

1R DISCUSSIONS ON ACCREDITATION AND AMERI-PLAN
Total: 14 hours discussion

Coordinator: Mr. Eugene Staples, President
West Virginia Hospital Association

Objective:

To discuss all phases of preparation for Accreditation Review. Standards for accreditation of Hospitals will be discussed in detail. Each session a specific Service will be reviewed and discussed by various West Virginia hospital personnel throughout the State.

Mr. John F. Horty, a member of the Special Committee on the Provision of Health Services will present the Ameri-Plan.

* * * * * *

1S MENTAL RETARDATION AND OTHER HANDICAPPING CONDITIONS CEU 1.8 Units
18 Class Periods

Coordinator: Nancy Jackson, Assistant Professor
Public Health Nursing
West Virginia University School of Nursing

Class Number	Topic
1	Overview of Mental Retardation
2	Scope of Problem in West Virginia Etiology of Mental Retardation Dr. Ruth Phillips

Class Number	Topic
3	The Child with a Neurological Condition
4	The Child with Cerebral Palsy
5	Perceptual Problems Dr. Wayne Sloop Assistant Professor, Dept. Behavioral Medicine and West Virginia University
6	Nursing Appraisal of Infant Neurological Development
7	Denver Development Screening Test Nancy Jackson
8	Vision Screening Dr. Ruth Phillips
9	Assessment of ADL's Institutional Planning for Assessment Nancy Jackson
10	Families in Crisis 1) Grief Process 2) Crisis Intervention Nancy Jackson
11	Sexual Aspects 1) Development of Sexuality 2) Teaching Mentally Retarded Girl about Menstruation Nancy Jackson
12	Medications - Nursing Implications
13	Controversy on Patterning Sensory Stimulation
14	Behavior Modification Dept. Behavioral Medicine and Psychiatry West Virginia University Dr. Vaugh Dr. Wayne Sloop

Class Number	Topic
15	Behavior Modification Cont'd
16	Behavior Modification Cont'd
17	Behavior Modification Cont'd
18	Changing the System of Institutional Care

* * * * * *

SERIES 1T MEDICAL-SURGICAL NURSING CARE CEU 2.0 Units

Coordinator: Lou Shaffer

This series of classes is planned in response to the numerous request submitted hospitals participating in telelecture. The WVU Med-Surgical Nursing Faculty felt that the requests fell into two categories - the chronic and the acute conditions. They will consider the acute conditions this semester, Fall, 1971.

Each Instructor will follow the same format of discussions:

1. Assessment (Need determination)
2. Planning (Goal setting)
3. Implementation (Nursing active)
4. Evaluation

In general, the lectures will be pre-taped followed by live question and answer period. Of necessity, the classes are irregularly scheduled to accommodate the various Instructor's regular teaching schedule.

Class #	Title	Instructor
1		
2	Respiratory Failure	Gaynelle McKinney
3		
4		
5		
6	Shock	Katherine Bordicks
7		
8	Discussion	Lou Shaffer
9	Surgical Metabolism	Lou Shaffer
10		Gaynelle McKinney
11	Metabolic Crises	Lou Shaffer

Class #	Title	Instructor
12	Unconscious Patient	Nancy Koontz
13	Delirium	Anne Doyle
14	Head Injuries	Clara Long
15	Congestive Heart Failure	Lou Shaffer
16	Acute Renal Failure	Shirley Bell
17	Hypertensive Crises	Mary Frances Borgman
18		
19	Pain	Lois O'Kelley

* * * * * *

1V ORGANIZATION AND MANAGEMENT OF CORONARY CARE UNITS CE, CEU 1.0 Units

Instructor: Joan Ganong

Purpose:

The purpose of this course is to provide nurses involved in the Management of Coronary Care Units with learning experiences related specifically to their speciality area. The principles and concepts of management are applied to the small unit. The entire professional members of the nursing team on a given unit would benefit from this course.

Objectives:

To assist the nurse-manager in a coronary care unit, upon completion of the course topic, to:

- Apply principles and concepts of management to the unit
- Utilize appropriate staffing patterns for the unit
- Identify and use the basic human needs in working with others in the unit
- Know and apply legal aspects of nursing to coronary care unit
- Relate effectively with inter-disciplinary personnel for the betterment of patient care

ORGANIZATION AND MANAGEMENT
OF
CORONARY CARE UNITS

I. Introduction to the growth and development of the Coronary Care Units and their management in hospitals

II. Management Concepts -- their application to the Coronary Care Unit.

A. Management today for tomorrow
B. Setting goals
C. The role of the social sciences
D. Applying the concepts

III. Essential Elements in the development, design and operation of the Coronary Care Unit

A. The team approach
B. Elements of design
C. Establishing policies and procedures
D. Legal aspects

IV. Management Skills for those in supervisory roles in the Coronary Care Unit

A. Communication and delegation -- the use of a Committee
B. Problem solving in small groups
C. Leadership and motivation
D. Planning and organizing for action -- staffing patterns and role expectations

V. The Evaluation Process in a Coronary Care Unit

A. The management-by-objectives approach to evaluation
B. Principles, tools and methods of evaluation

* * * * * *

1Y THE AGING IN WEST VIRGINIA: CHALLENGE AND OPPORTUNITY

Coordinator: Jack Rodgers

This course is designed for "in-depth" study of the Aging and the problems encountered and general guides to their solution.

I. Aging and Society

Session	1	Perspectives on Aging
	2	Attitudes, Skills-Working with the Aging
	3	The Process of Aging
	4	The Serving Professions Look At Aging

II. Aging and the Individual
- Session 1 — Interpersonal Contact
- 2 — Income Maintainance-Social Security, etc.
- 3 — Legal Service
- 4 — Pre-Retirement Education

III. Services for the Aging
- Session 1 — Volunteer Services - Meals, etc.
- 2 — Information and Referral Services
- 3 — Housing - Homes for Aged: Individual Housing
- 4 — Local Programs - Transportation

This telelecture series is a cooperative program made possible by the following:

Continuing Education for Nursing, Medical Center, West Virginia University

Continuing Education for Clergy, Appalachian Center, West Virginia University

West Virginia Commission on Aging

West Virginia Council of Churches

* * * * * *

DIVISION OF MEDICAL TECHNOLOGY PROFESSIONAL DEVELOPMENT SEMINARS

USING TELE-LECTURE COMMUNICATIONS SYSTEM

Objectives:

To stimulate intellectual curiosity among participating medical technologists.

To encourage communication between medical technologists in the various clinical laboratories in West Virginia by exchanging ideas among seminar participants pertaining to new methods and techniques in laboratory medicine.

Program Schedule:

August 26, 1971

Education of Laboratory Personnel - Miss Betholene Love, MS, MT (ASCP)

September 30, 1971

Clinical Chemistry - Miss Ida Yoder, MS, MT (ASCP)

October 28, 1971

Blood Banking - Miss Annette Helmick, BS, MT (ASCP)

November 18, 1971

Microbiology - Mr. Dane W. Moore, MS, MT (ASCP)

December 30, 1971

Hematology - Mr. Paul Taylor, BS, MT (ASCP)

January 27, 1971

Coagulation - Mabel M. Stevenson, M.

TUMOR CONFERENCE TELELECTURE

The Tumor Conference is scheduled every Tuesday from 3:30 to 4:30 p.m. The interdisciplinary Tumor Board at West Virginia University consists of a surgeon, radiologist, pathologist, internist, gynecologist and pediatrician. Other interested physicians participate, as well as junior and senior surgical clerks, for a local audience of approximately 25 persons.

The information regarding the 2 or 3 patients to be discussed is distributed to all the participating hospitals prior to the conference. This material is provided as 2 x 2 slides including such things as photographs of the lesion, copies of pertinent x-rays and photomicrographs of the pathology.

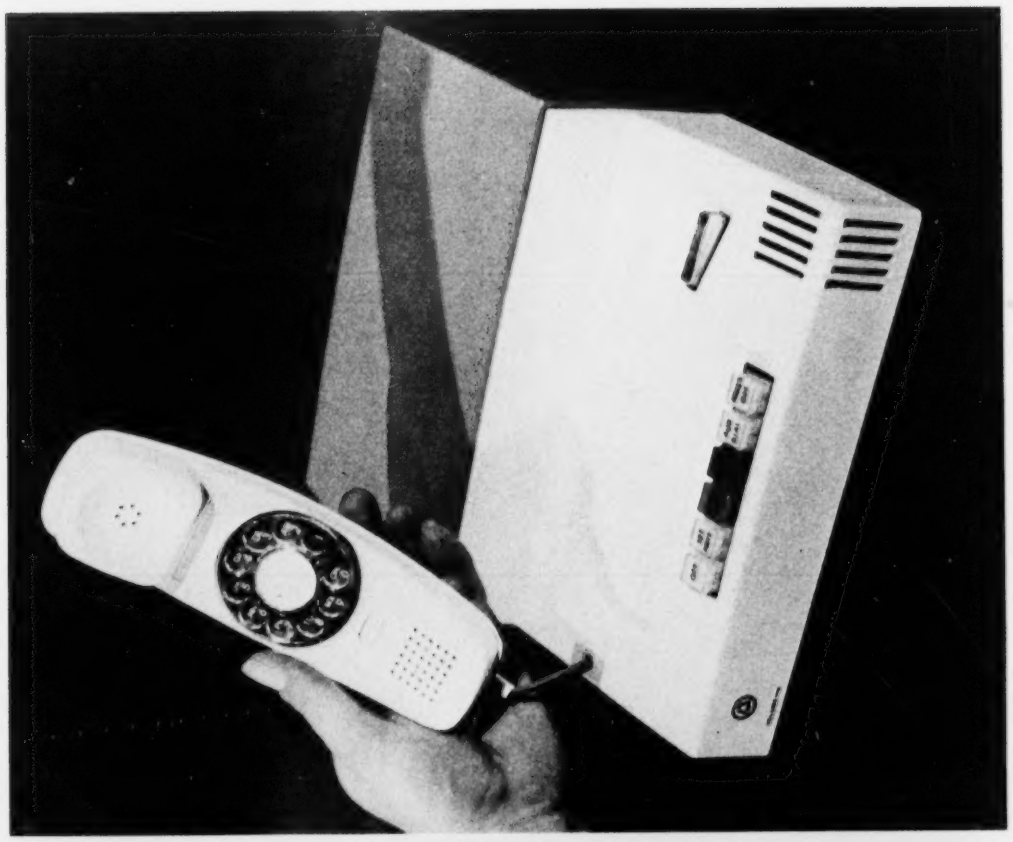
The participating hospitals include the Wheeling Hospital, Ohio Valley General Hospital, Broaddus Hospital, Clarksburg Veterans Administration Hospital and the Charleston Memorial Hospital. Each of these hospitals has a surgery residency training program and have student clerks. Broaddus Hospital and Clarksburg Veterans Hospital have physicians assistants in training. There is an average of 6-10 participants at each hospital, including staff surgeons, radiologists and pathologists. Thus, the local program reaches about 25 persons at the University and 50 persons via the telelecture network.

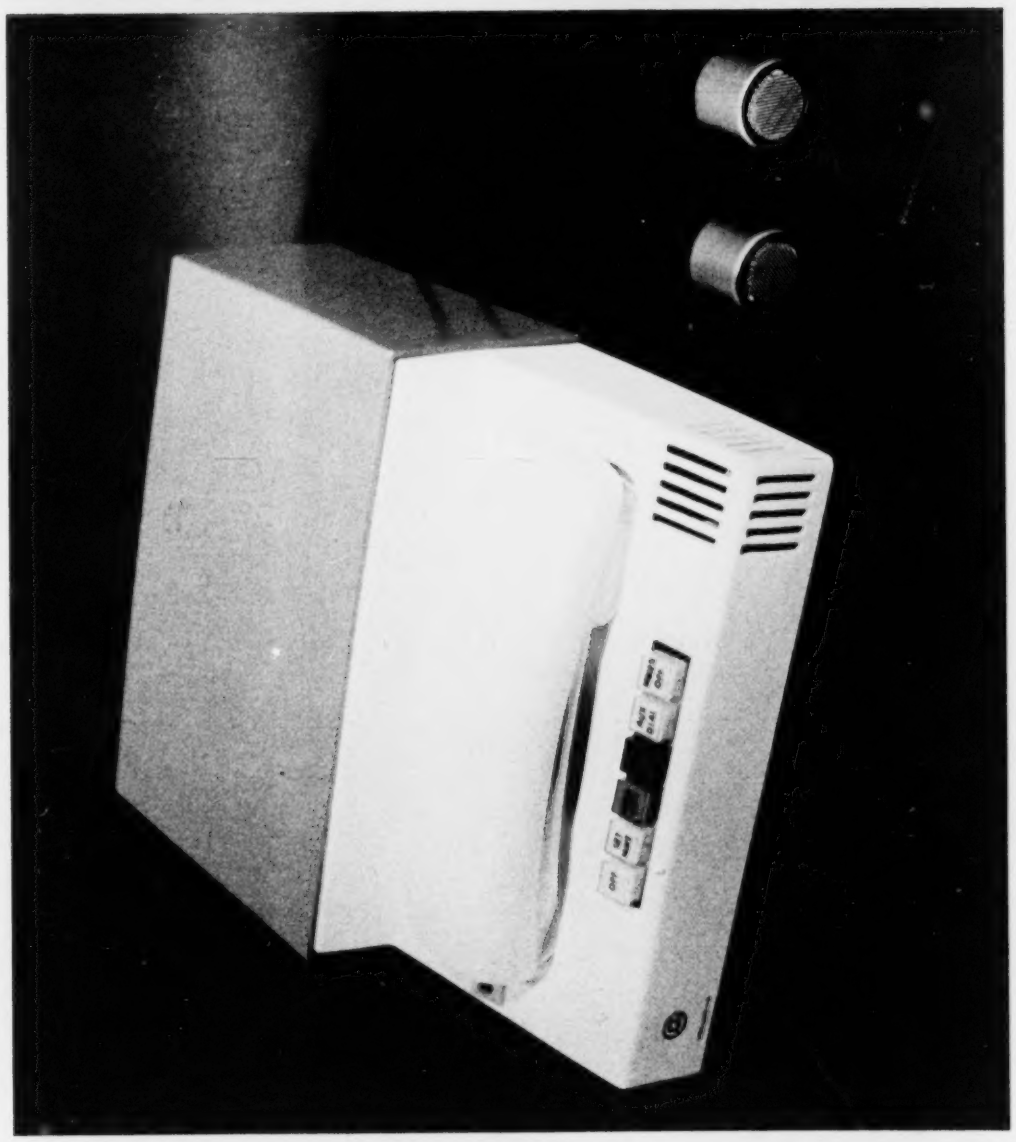
Respectfully submitted,

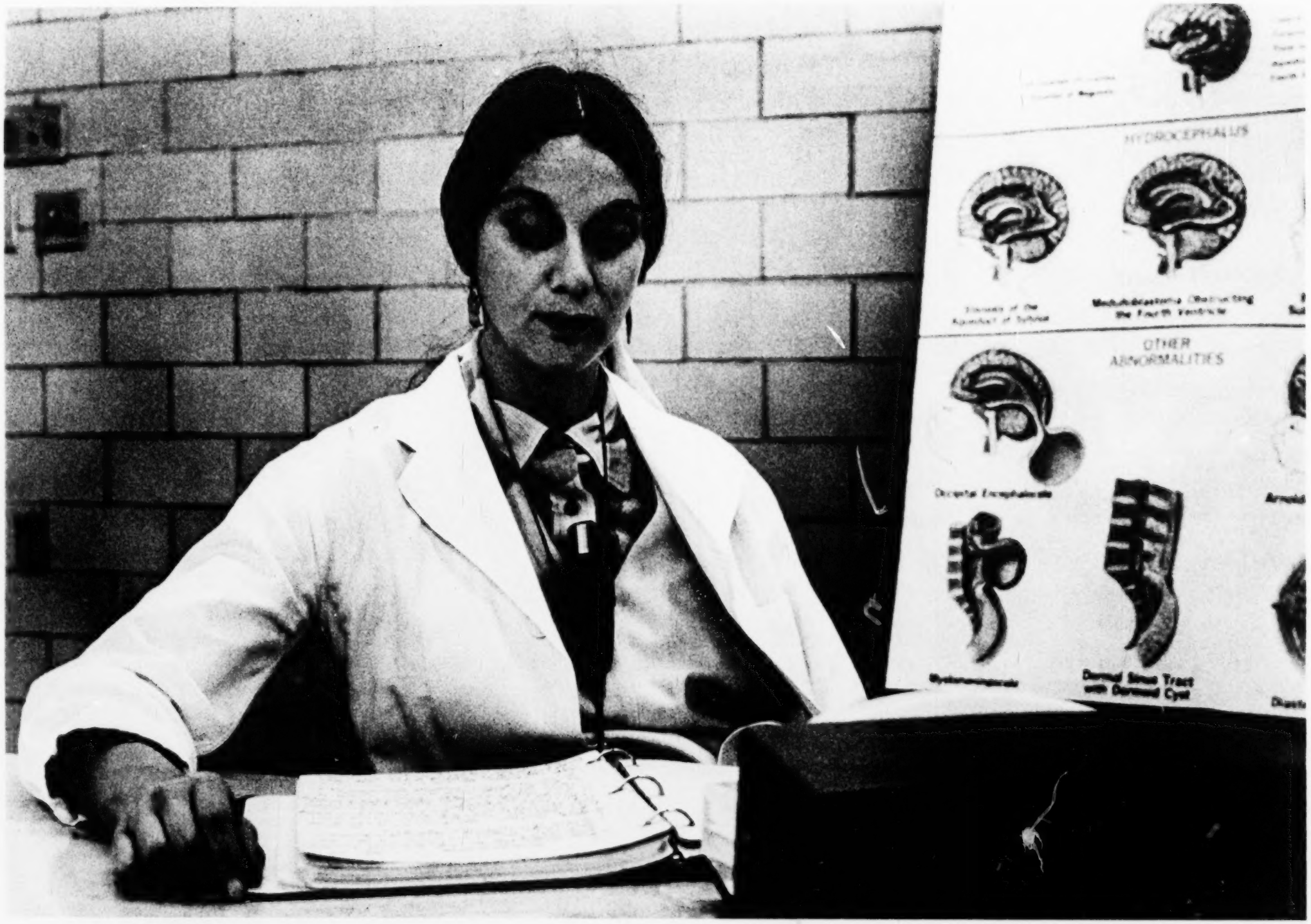
Alvin L. Watne, M. D.
Professor of Surgery

ALW/bly

APPENDIX C







LECTURE on the growth and development of human beings is delivered by Jackie Lunianski, assistant professor of nursing at West Virginia University, over the Bell System's portable conference telephone set. The telephone, about the size of a shoe box, is piping both live and taped lectures to 45 hospitals and six public health extension centers in West Virginia. The set is manufactured by Western Electric, the people who make Bell telephones and communications equipment of the future, at the company's Shreveport (La.) Works.

PHOTO #L-87 -- WESTERN ELECTRIC COMPANY -- DECEMBER. 1970

NURSES in a West Virginia hospital listen to a lecture on the growth and development of human beings. The lecture is being broadcast by the Bell System's new portable conference telephone set, foreground. The telephone, roughly the size of a shoe box, can be a "stand-in" teacher that can transmit live and taped lectures from far-away medical experts to an audience of 50 people. The set is made by Western Electric, the people who make Bell telephones and the communications equipment of the future, at the company's Shreveport (La.) Works.

PHOTO #L-89 -- WESTERN ELECTRIC COMPANY -- DECEMBER, 1970

MILK